

Morrill Middle School HVAC UPGRADE

1970 Morrill Ave, San Jose CA 95132

BID SET

DSA: 01-118687 / File: 43-7



Engineer Seal

Architect Seal



Project Title

Morrill Middle School
1970 Morrill Ave.
San Jose, CA 95132
HVAC Upgrade

Client

Berrysessa Union School District
1376 Piedmont Rd.
San Jose, CA 95132

No	Revisions/Submissions	Date

Drawing Title

TITLE SHEET

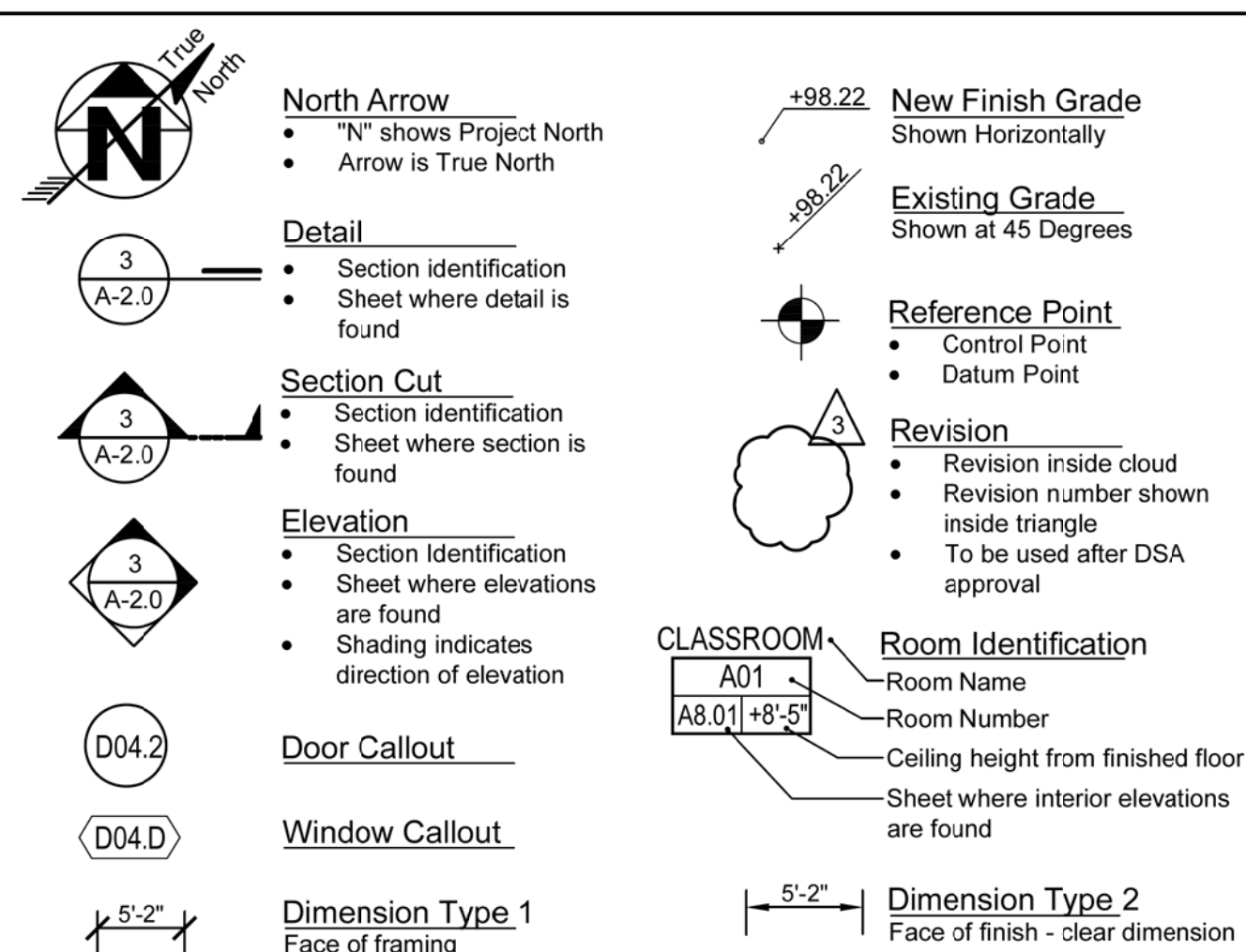
Project No. 1919 Date December 16, 2019

CD Drawing Number **A-0.0**

ABBREVIATIONS

A/C	air conditioning	GL	glass	S.N.R.	sanitary napkin
A.C.	asphaltic concrete	GND.	ground		receptacle
A.F.F.	above finish floor	GYP.	gypsum	S.O.G.	slab on grade
ACCESS.	accessible	H.B.	hose bibb	S.S.	stainless steel
ACOUS.	acoustical	H.C.	hollow core	S.Y.	square yard
ADJ.	adjustable	H.M.	hollow metal	SAN.	sanitary
AGGR.	aggregate	H.V.A.C	heating, ventilating and air conditioning	SCHED.	schedule
AL.	aluminum			SECT.	section
ALT.	alternate	HDW.	hardware	SHT.	sheet
ANC.	anchor	HDWD.	hardwood	SHTG.	sheathing
APPROX.	approximate	HORIZ.	horizontal	SIM.	similar
ARCH.	architect(ural)	HR.	hour	SPAC.	spacing
AUTO.	automatic	HT.	height	SPEC(S).	specification(s)
ABV.	above	HTR.	heater	SQ.	square
BD.	board	I.D.	inside diameter	STD.	standard
BTWN.	between			STL.	steel
BIT.	bituminous	INCL.	include	STOR.	storage
BLDG.	building	INSUL.	insulation	STRUCT.	structural
BLKG.	blocking	INT.	interior	SUSP.	suspended
BM.	beam	INV.	invert	SYM.	symmetrical
BOT.	bottom	JAN.	janitor	SYS.	system
C.B.	catch basin	L.P.	low point	T.	tread
		LAB.	laboratory	T&B	top and bottom
C.I.	cast iron	LAM.	laminated	T.C.	top of curb
C.I.P.	cast in place	LAV.	lavatory	T&G	tongue and groove
C.J.	control joint	LB.	pound	T.O.	top of
CAB.	cabinet	LOC.	location	T.O.C.	top of concrete
CEM.	cement	LT.	light	T.O.S.	top of sheathing
CER.	ceramic	M.H.	manhole	T.O.W.	top of wall
CLG.	ceiling	MACH.	machine	T.P.	top of pavement
CLR.	clear	MATL.	material	T.P.D.	toilet paper dispenser
COL.	column	MAX.	maximum	T.S.C.D.	toilet seat cover
CONC.	concrete	MECH.	mechanical		
CONSTR.	construction	MED.	medium		
CONT.	continuous	MEMB.	membrane	T.V.	television
COORD	coordinate	MEZZ.	mezzanine	TEL.	telephone
		MGFR.	manufacturer	TEMP.	temperature
CTR.	center	MIN.	minimum or minute	TER.	terrazzo
CTSK.	countersunk	MISC.	miscellaneous	THK.	thick
D.F.	drinking fountain	MTD.	mounted	TYP.	typical
DBL.	double	MTL./MET.	metal	U.O.N.	unless otherwise noted
DET.	detail	N.I.C.	not in contract	UR.	urinal
DIA.	diameter	N.T.S.	not to scale	V.C.P.	vitreous clay pipe
DIAG.	diagonal	NO.	number	V.C.T.	vinyl composition tile
DIM.	dimension	NOM.	nominal	V.J.F.	verify in field
DISP.	dispenser	O.	over	V.T.R.	vent through roof
DN.	down	O.C.	on center	V.W.C.	vinyl wall covering
DWG(S)	drawing(s)	O.D.	outside diameter	VERT.	vertical
(E)	existing	O.F.C.I.	owner furnish contractor install	VEST.	vestibule
E.S.	each side	O.A.	overflow drain	W/	with
E.W.	each way	O.H.	overhead	W.C.	water closet
EA.	each	OPNG.	opening	W/O	without
EL.	elevation	OPP.	opposite	W.P.	waterproof
ELEC.	electrical	P.LAM.	plastic laminate	W.W.F.	welded wire fabric
ELEV.	elevator	P.V.C.	polyvinyl chloride	WD.	wood
EMER.	emergency	PERF.	perforated	WDW.	window
ENCL.	enclosure	PLAS.	plaster	WSC.T.	wainscot
ENGR.	engineer	PLBG.	plumbing	WT.	weight
EQ.	equal	PLYWD.	plywood		
EQUIP.	equipment	PR.	pair		
ETC.	et cetera	PREFAB.	prefabricated		
EXP.	expansion	PROJ.	projection		
EXT.	exterior	PT.	point		
F.A.	fire alarm	Q.T.	quarry tile		
F.D.	floor drain	R.C.P.	reinforced concrete pipe		
F.E.	fire extinguisher	R.D.	roof drain		
F.H.	flat head	R.O.	rough opening		
F.O.C.	face of concrete	R.W.L.	rain water leader		
F.O.F.	face of finish	RAD.	radius		
F.O.S.	face of stud	REF.	reference		
FDTN.	foundation	REFL.	reflected		
FIN.	finish	REFR.	refrigerator		
FLR.	floor	REINF.	reinforced (ing) (ment)		
FLUOR.	fluorescent	REQD.	required		
FT.	foot or feet	RESIL.	resilient		
FTG.	footing	RET.	retaining		
FURR.	furring	REV.	revision		
G.B.	grab bar	RM.	room		
G.C.	general contractor	S.C.	solid core		
G.I.	galvanized iron	S.D.	soap dispenser		
G.L.B.	glue laminated	S.F.	square foot/feet		
GA	gauge	S.N.D.	sanitary napkin dispenser		
GALV.	galvanized				

LEGEND



STATE AGENCY REQUIREMENTS

- All numbers refer to Part 1, Title 24, CCR:
- Addenda and change orders shall be processed per section 4-338. Any condition encountered that is not covered by DSA approved documents shall be detailed and submitted and approved by DSA prior to execution of the work.
 - Inspector shall be approved by DSA. Inspector and continuous inspection of work per section 4-333(b) & 4-342.
 - Tests and testing laboratory per section 4-335 (Owner shall pay fee)
 - Provide special inspection per section 4-333(c).
 - Contractor, Inspector, Architect and Engineer shall submit verified reports per section 4-336 & 4-343(c).
 - Administration of construction per Part 1, Title 24, CCR
- Duties of Architect, Structural Engineer, or professional engineer per section 4-333(a) & 4-341.
- Duties of contractor per section 4-343
- Verified reports per section 4-336 & 4-343(c)
 - Governing Codes: Title 24, CCR
 - A copy of Parts 1, 2, 3, 4 & 5 of Title 24 shall be kept and available in the field during construction.
 - DSA shall be notified of the start of construction per section 4-331.
 - Supervision by the Division of the State Architect per section 4-334.
 - A separate application may be required for all N.I.C. items not part of DSA approval.
 - Special inspection on masonry, glu-lam beams, wood framing using timber connectors, ready-mixed concrete, gunite, prestressed concrete, high strength steel bolts, welding, pile driving, and mechanical and electrical work shall be required by Section 4-333(c). The costs of special inspections will be paid for by owner.
 - DSA is not subject to arbitration
 - Changes or revisions which affect access compliance are required to be submitted to DSA for approval.
 - Substitutions affecting DSA-regulated items shall be submitted as Construction Change Documents or Addenda and shall be approved by DSA prior to fabrication and installation.

GOVERNING CODES

- 2016 California Code of Regulations
- 2016 California Building Standards Administration Code, Part 1, Title 24, C.C.R.
- 2016 California Building Code (CBC), Part 2, Title 24 CCR (2015 International Building Code, Vol. 1 & 2, and 2016 California amendments)
- 2016 California Electrical Code (CEC), Part 3, Title 24 CCR (2014 National Electrical Code and 2016 California Amendments)
- 2016 California Mechanical Code (CMC), Part 4, Title 24 CCR (2015 IAPMO Uniform Mechanical Code and 2016 California amendments)
- 2016 California Plumbing Code (CPC), Part 5, Title 24 CCR (2015 IAPMO Uniform Plumbing Code and 2016 California amendments)
- 2016 California Energy Code (CEC), Part 6, Title 24 CCR
- 2016 California Fire Code (CFC), Part 9, Title 24 CCR (2015 International Fire Code and 2016 California Amendments)
- 2016 California Existing Building Code (CEBC), Part 10, Title 24 CCR (2015 International Existing Building Code and 2016 California Amendments)
- 2016 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
- 2016 California Referenced Standards Code, Part 12, Title 24 CCR
- Title 19 CCR, Public Safety, State Fire Marshal Regulations

APPLICABLE NFPA STANDARDS

NFPA	Standard	Year
NFPA 13	Automatic Sprinkler Systems	2016 Edition
NFPA 14	Standpipes Systems (CA Amended)	2013 Edition
NFPA 17a	Wet Chemical Systems	2013 Edition
NFPA 20	Stationary Pumps	2016 Edition
NFPA 24	Private Fire Mains (CA Amended)	2016 Edition
NFPA 72	National Fire Alarm Code (CA Amended)	2016 Edition
NFPA 80	Fire Door and Other Opening Protectives	2016 Edition
NFPA 2001	Clean Agent Fire Extinguishing Systems	2015 Edition

GENERAL CONSTRUCTION NOTES

- All work shall be performed in conformance with local, county, state and federal codes, laws, and regulations applicable to this work, including CCR Title 19, and CBC 2016.
- Existing construction data shown on the drawings was obtained from available drawings. The contractor shall verify all existing conditions and shall notify the architect of all exceptions before proceeding with the work.
- All discrepancies between drawings shall be clarified with the architect prior to proceeding with the work.
- In the event that certain features of the construction are not fully shown or detailed on the drawings or called for in the general notes, then their construction shall be of the same character as similar conditions shown or called for.
- Verify electrical, mechanical, fire alarm, telephone and security requirements before construction begins.
- Any item identified to be demolished, removed, or relocated is to be completely removed, including but not limited to any concealed items (pipes, curbs, framing, beams, fasteners, etc.). All items within a demolished area that must be rerouted in order to maintain continuity shall be done so in accordance with appropriate specification sections in the project manual at no additional cost. If no specification can be found within the project manual, then continuity shall be maintained by current standard methods for construction but not lesser in quality than existing. Any area of demolition or removal shall be left in a completely finished condition as outlined in the project manual.
- Contractor to coordinate with District prior to beginning work.
- The intent of these drawings and specifications is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration or noncomplying construction be discovered which is not covered by the contract documents wherein the finished work will not comply with Title 24, California Code of Regulations, a change order, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work.
- Compliance with CFC Chapter 14, fire safety during construction and demolition and CBC Chapter 33, safety during construction will be enforced.
- Per CBC 11B-104.1, all dimensions are subject to conventional industry tolerances except where the requirement is stated as a range with specific minimum and maximum end points.

DRAWING REVIEW STATEMENT

X. The drawings or sheets listed on the cover or index sheet with (*),
 This drawing, page or specifications / calculations,
 have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. They have been examined by me for:
 1) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and
 2) coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.



The Statement of General Conformance "shall not be construed as relieving me of my rights, duties and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 40341 and 4-344" of Title 24, Part 1. (Title 24, Part 1, Section 4-317 (b))

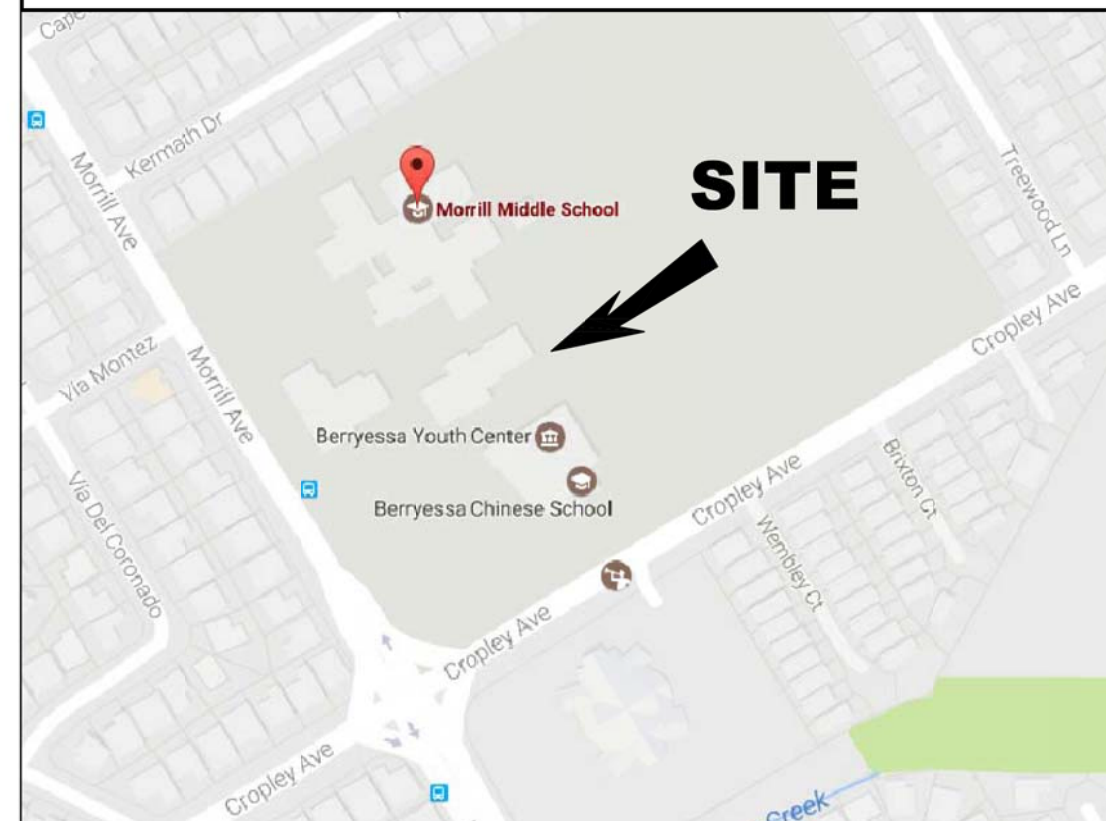
SHEET INDEX

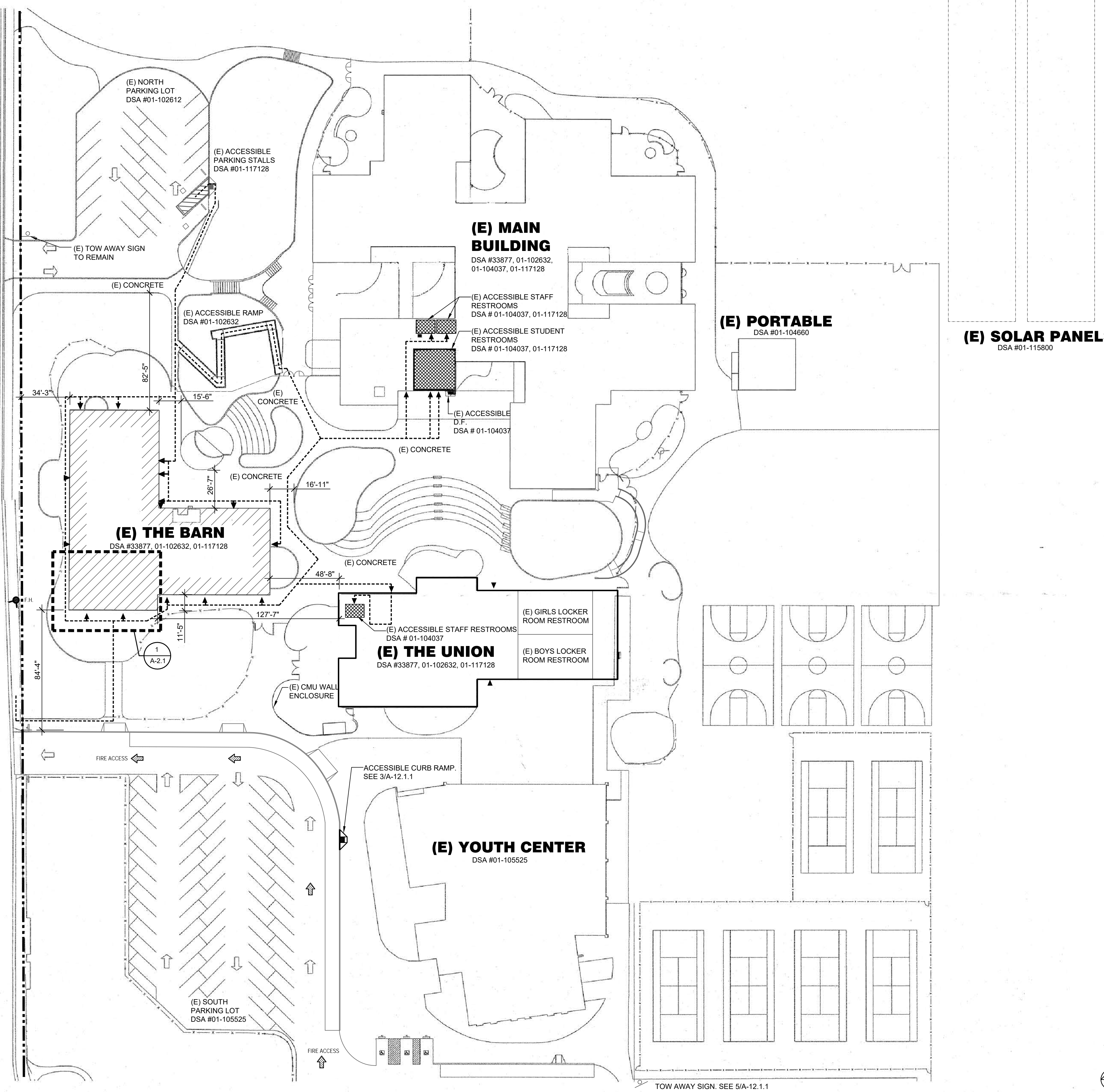
Sheet	Description
*Architectural	
A-0.0	Title Sheet
A-0.2	Code Site Plan
A-2.1	Demolition Floor Plan & Floor Plan
A-4.1	Reflected Ceiling Plan & Roof Plan
A-6.1	Exterior Elevations & Door Schedule
A-8.1	Interior Elevations
A-12.1	Details
A-12.1.1	Details
*Structural	
S1.0	Structural General Notes and Partial Roof Plan
S2.0	Structural Details
*Mechanical	
MP0.1	Mechanical Legends, Notes, and Drawing Index
MP0.2	Mechanical Title 24 Documentation
MP0.3	Mechanical Title 24 Documentation
MP2.1	Mechanical and Plumbing Floor Plans
MP2.2	Mechanical and Plumbing Roof Plans
MP4.1	Mechanical Schedules
MP6.1	Mechanical Details
MP6.2	Mechanical Details
MP7.1	Mechanical Controls
*Electrical	
E0.1	Electrical Symbols, Abbreviations, Notes & Drawing Index
E1.1	Electrical Site Plan
E2.1	Electrical and Fire Alarm Plans
E7.1	Fire Alarm Details
Total Sheet Count: 23	

PROJECT SUMMARY

Project consists of the addition of (1) single package unit and incidental electrical and plumbing work in the existing Music Room in The Barn. Also, removing two existing roll up doors, infilling the wall and adding a single door.

VICINITY MAP





PROJECT INFORMATION

AREA OF WORK

(E) THE BARN
 DSA #: 33877, 01-102632, 01-117128
 Type of Construction: V-B
 Occupancy: E
 Fire sprinkler: No
 Stories: One
 Area: 13,020 sf

Allowable Area: Per 2016 CBC Table 506.2, Occupancy E and Type V-B (non-sprinklered) 9,500sf

Frontage Increase Equation 5-5:
 $= [356/565 - 0.25] 30' / 30$
 $= .38$

$0.38 \times 9500sf = 3611$
 $9500sf + 3611sf = 13111sf$
 $13020sf < 13111sf = OK$

(E) MAIN BUILDING
 DSA #: 33877, 01-102632, 01-117128
 Building Not in Scope

(E) THE UNION
 DSA #: 33877, 01-102632, 01-117128
 Building Not in Scope

(E) YOUTH CENTER
 DSA #: 01-105525
 Building Not in Scope

(E) RELOCATABLE BUILDING
 DSA #01-104660
 Building Not in Scope

NOTE:
 No change in occupancy or building area is occurring with this project.

PARKING REQUIREMENTS

North Parking Lot
 (E) Parking Stalls = 30
 (E) Accessible Stalls = 2
 (E) Van Accessible Stalls = 1

Per CBC Table 11B-208.2, (2) accessible stalls are required, of which (1) shall be van accessible. Therefore the (E) parking lot complies.

South Parking Lot
 (E) Parking Stalls = 57
 (E) Accessible Stalls = 3
 (E) Van Accessible Stalls = 1

Per CBC Table 11B-208.2, (3) accessible stalls are required, of which (1) shall be van accessible. Therefore the (E) parking lot complies.

GENERAL NOTES / LEGEND

Accessible path of travel (hereafter, P.O.T) as indicated on plan is a barrier-free access route without any abrupt level changes exceeding 1/2" if beveled at 1:2 max slope, or vertical level changes not exceeding 1/4" max, and at least 48" in width. Surface is stable, firm and slip resistant. Cross slope does not exceed 2% (1:48) and slope in the direction of travel is less than 5% (1:20) unless otherwise indicated. Accessible P.O.T shall be maintained free of overhanging obstructions to 80" minimum, and protruding objects greater than 4" projection from wall and above 27" and less than 80". Architect shall verify that there are no barriers in the P.O.T. Accessible path of travel shown on plans can be negotiated by a person with a disability using a wheelchair, and that is also safe for and usable by persons with other disabilities. IOR shall verify that there are no barriers in the P.O.T..

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

The POT identified in these construction documents is compliant with the current applicable California Building Code accessibility provisions for path of travel requirements for alterations, additions and structural repairs. As part of the design of this project, the POT was examined and any elements, components or portions of the POT that were determined to be noncompliant 1) have been identified and 2) the corrective work necessary to bring them into compliance has been included within the scope of this project's work through details, drawings and specifications incorporated into these construction documents. Any noncompliant elements, components or portions of the POT that will not be corrected by this project based on valuation threshold limitations or a finding of unreasonable hardship are so indicated in these construction documents. During construction, if POT items within the scope of the project represented as code compliant are found to be nonconforming beyond reasonable construction tolerances, they shall be brought into compliance with the CBC as part of this project by means of a construction change document.

Accessible path of travel as shown on the plans can be negotiated by a person with a disability using a wheelchair, and is also safe for and useable by persons with other disabilities.

Existing accessible routes to all facilities and buildings that are operational during construction phase shall remain unobstructed, safe and useable by people with disabilities.

At accessible door locations shown along the POT, adjust door closers to 5 lbs max pressure.

- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL
- ▲ ACCESSIBLE ENTRANCE
- ACCESSIBLE DRINKING FOUNTAIN
- ▣ (E) ACCESSIBLE RESTROOM
- ▨ AREA OF WORK

Regulatory Agency Approval

DSA: 01-118687 / File: 43-7



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Architect Seal



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CODE SITE PLAN

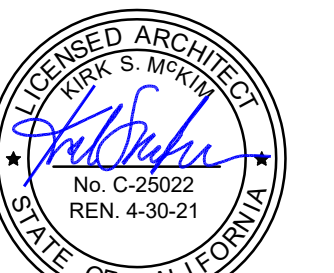
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CD Drawing Number A-0.2



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DEMOLITION FLOOR PLAN & FLOOR PLAN

Project No. 1919 Date December 16, 2019

CD Drawing Number **A-2.1**

GENERAL NOTES

- Contractor is to protect all existing items to remain. Apply and maintain protective plastic sheeting at all items to remain, typ.
- Refer to all drawings and specifications for entire scope of work.
- Clean all rooms affected by work at the completion of the project. This includes, but is not limited to, all exposed cabinet surfaces and shelves, glass at windows and doors, and window blinds.
- Dimensions indicated as (E) are +/- per the District set of plans and are intended for reference only. Contractor is to field verify all dimensions prior to bid.
- Not all sides of every building, all rooms, nor all walls of every room are shown. Contractor is to field verify and coordinate with the field conditions to confirm that all walls, eaves, ceilings, soffits, etc. are included in the bid.
- Protect all existing plants in area of work, typ.
- All (E) systems are to be fully operational at the completion of the project. Contractor to confirm all system in area of work are functioning properly at the start of the project. Notify architect of any (E) systems which are not functional prior to commencing work. Once work begins, contractor assumes full responsibility for operation of systems.
- Refer to sheet A-12.1 and specifications for all roofing details and requirements related to roofing penetration and patch back. All roofing must be warranted by the manufacturer.

SCOPE OF WORK

The following scope is to be provided throughout the entire area of work unless noted otherwise.

FLOORS

- Existing carpet is to remain. Patch back carpet where existing roll up door system has been demolished, color and manufacturer to match existing, typ.
- Provide walk off mat carpet at entry door as shown, typ. Color and manufacturer to match existing.
- Provide top set base at infill locations, color to match existing, typ.

INSULATION

- Wood framed walls and infill: Provide R-19 (minimum). Batt insulation to fill wall cavity, typ.
- Roof/ceiling assemblies: Provide R-38 equivalent insulation in Room D7, typ.

WALLS

- Provide all wall infill as noted on plans.
- Refer to exterior elevations for full description of exterior scope of work.
- Paint wall infill, trim, doors, frames, conduits, condensate, gas line, duct transitions etc. to provide a fill complete project.

DOORS & WINDOWS

- Provide all doors, frames and hardware as outlined in the plans, schedules and specifications. Coordinate patching and painting of exterior finishes as required.

CEILING

- Provide and install scrim sheet as identified in the plans, and specifications.
- Paint all unfinished wood white prior to scrim installation.

MECHANICAL

- Provide and install all mechanical units, ductwork and appurtenances. Coordinate with mechanical, electrical, and plumbing plans for requirements and configuration.

ELECTRICAL

- Existing panel in the (E) mechanical room is to remain. Protect during construction. Refer to electrical plans for additional requirements.
- All existing electrical panels are to remain.
- Provide and install all lighting and switches.

ROOFING

- Provide roof patch as required where roof system is being altered as part of the project. This includes alterations for demolition of utilities and alterations required to accommodate the project scope of work. Patches shall be per manufacturer's recommended details and as required to maintain warranty. Contractor shall submit shop drawings showing all patch details and shall provide a letter from the roofing manufacturer's representative certifying the details.
- Refer to exterior elevations for full description of scope of work.

SIGNAGE

- Remove and replace signage at interior and exterior doors per the plans and details on sheet A-12.1. Patch substrate as required.
- Provide all signs as identified in the plans and specifications. Coordinate with all plans, schedules, and specifications.

DEMOLITION SCOPE OF WORK

NOTE: See ALL other plans (structural, mechanical, electrical) for additional information and scope of work.

DEMOLITION

- INTERIOR:** Demolish roll up doors. See ALL other plans (structural, mechanical, electrical, plumbing, etc) for additional information and scope of work. Demolish walk off mat carpet and carpet as shown on plans.
- EXTERIOR:** Existing exterior finishes are to remain unless specifically called to be demolished. See ALL other plans (mechanical, electrical, plumbing, etc) for additional information and scope of work.
- ROOF:** Existing roof is to remain, typ. Refer to roof plan, mechanical, electrical and plumbing drawings for additional requirements at roof.

DEMOLITION KEYNOTES

- (E) Roll up door system to be demolished. Demolish all hardware, controls, channels, guides, chains, etc typ.
- (E) Door to be demolished, typ.
- (E) Carpet and wall base to remain, typ.
- (E) Casework to remain, typ.
- (E) Fire extinguisher to remain, typ.
- (E) Walk off mat to remain, typ.
- (E) VCT tile to remain, typ.
- (E) carpet to be demolished where identified on plans. Prepare surface to receive walk off mat carpeting, typ.
- (E) walk off mat carpet to be demolished where identified on plans.

DEMOLITION PLAN LEGEND

- (E) Wall to be demolished
- (E) CMU wall to remain
- (E) Walk off mats at entry door to remain

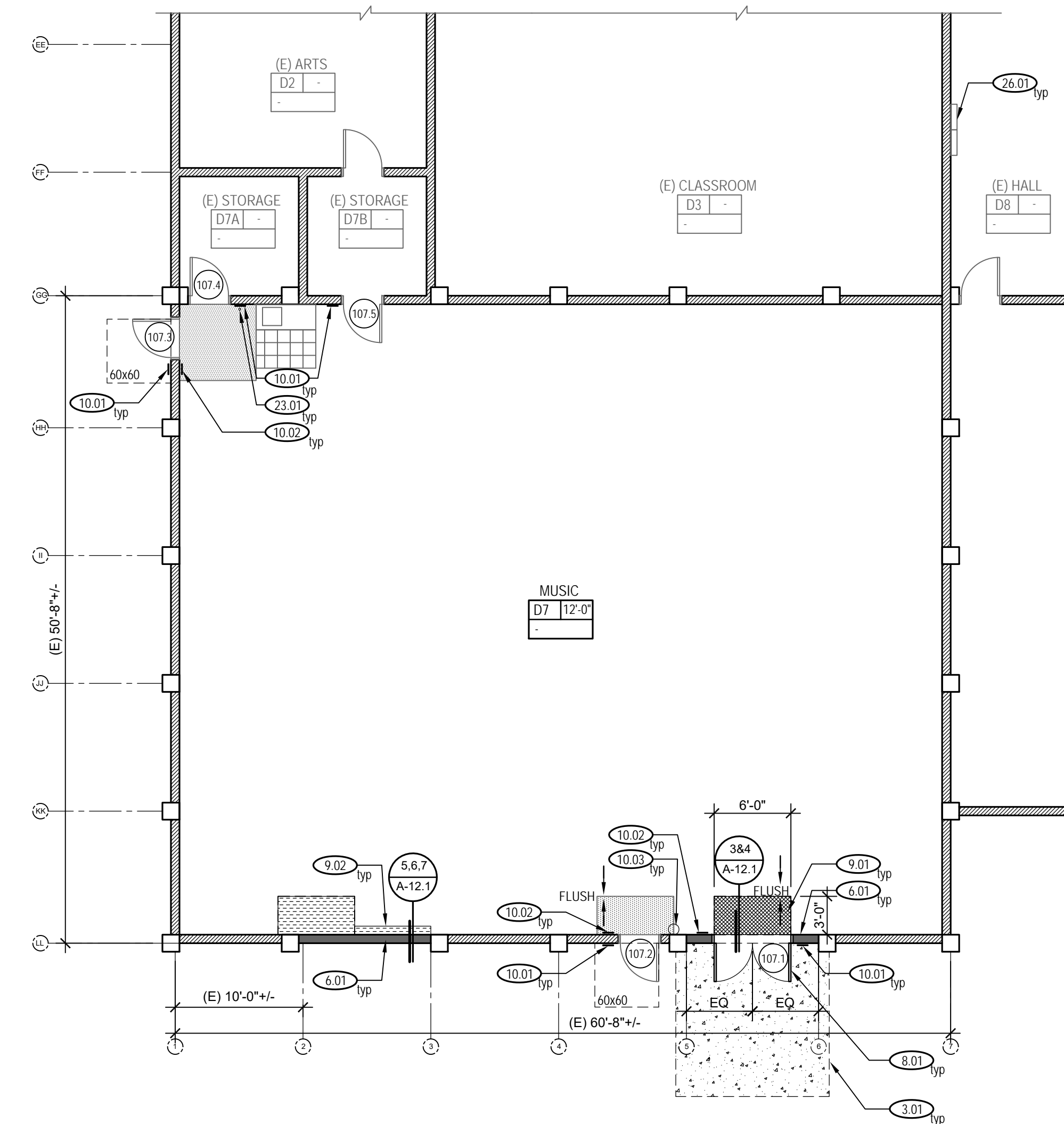
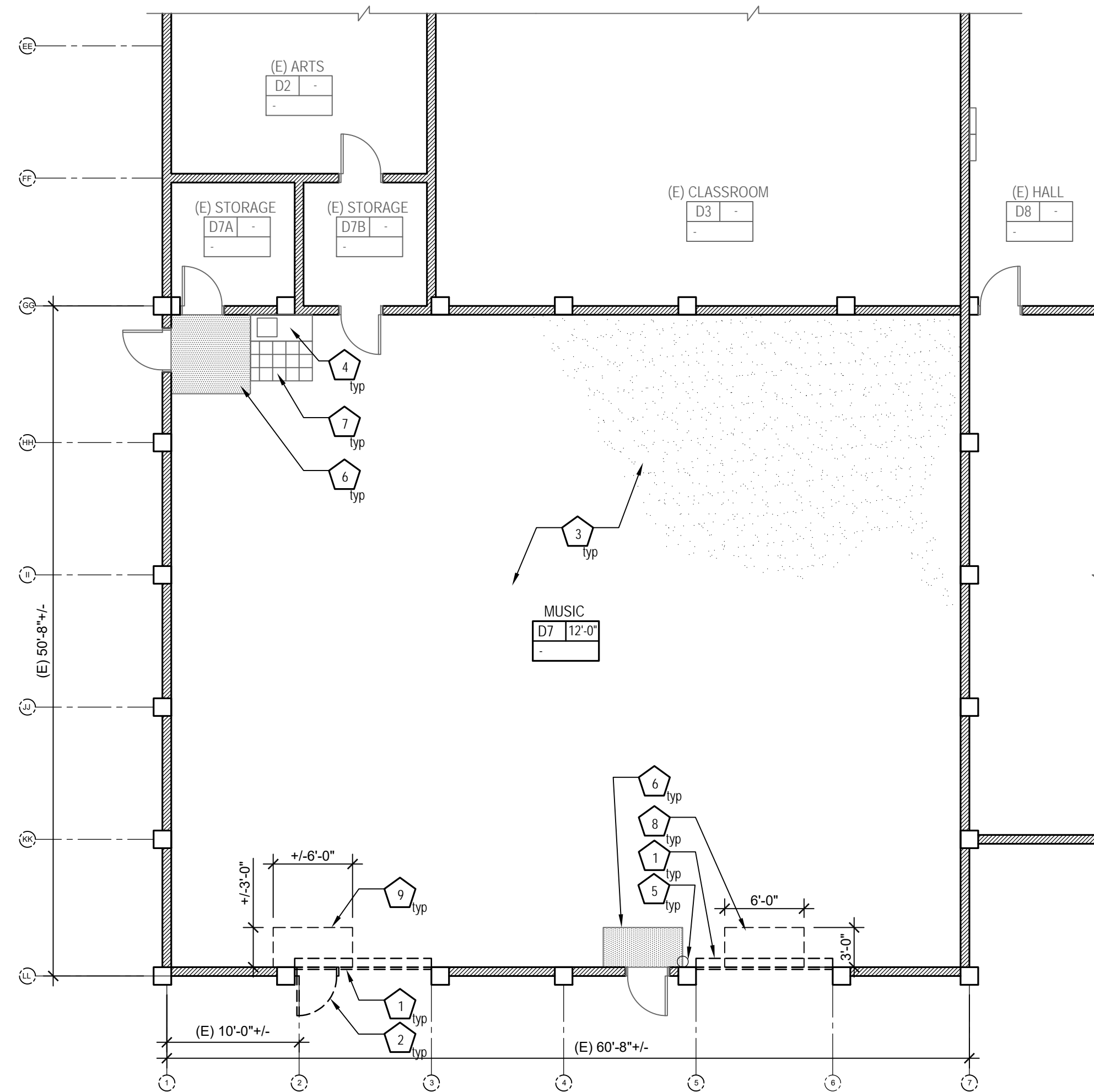
FLOOR PLAN KEY NOTES

- Concrete landing, 2% max slope in all directions, typ. Refer to detail 17/A-12.1
- Wall infill, typ. Refer to structural plans and 5.6.7/A-12.1.
- Door system, typ. Refer to schedule.
- Install walk off mat carpet at entry doors as shown, typ. Walk off mat carpet to be flushed with (E) carpet. See detail 16/A-12.1. Color to match existing
- Provide carpet patch back and base, typ. Color to match existing.
- Room identification signage, typ. See detail 9/A-12.1 and sheet A-6.1 for signage schedule.
- Exit signage, typ. - see detail 10/A-12.1 and refer to A-6.1 for signage schedule.
- Fire extinguisher to remain, typ.
- Condensate pipe from mechanical unit. Run down wall and connect to sanitary sewer at sink in cabinet. See mechanical, paint to match wall color.
- (E) Electrical panel to remain, typ.

FLOOR PLAN LEGEND

- Wall - 2x6 framing with 5/8" Type "X" gypsum board and cement plaster, filed with batt insulation
- (E) CMU wall to remain
- Walk off mat, typ. Color to match existing.
- Carpet patch, typ. Color to match existing.
- ROOM I.D. SIGNAGE
- REFER TO DOOR SCHEDULE FOR LOCATIONS/TYPES OF SIGNAGE REQ'D
- EXIT SIGNAGE

ROOM NAME	AREA (SF)	OCCUPANT LOAD FACTOR from CBC Table 1004.1.2	OCCUPANCY
D7-MUSIC	294SF	20 net	148





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REFLECTED CEILING PLAN & ROOF PLAN

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CD Drawing Number **A-4.1**

ROOF PLAN - SCOPE OF WORK NOTES

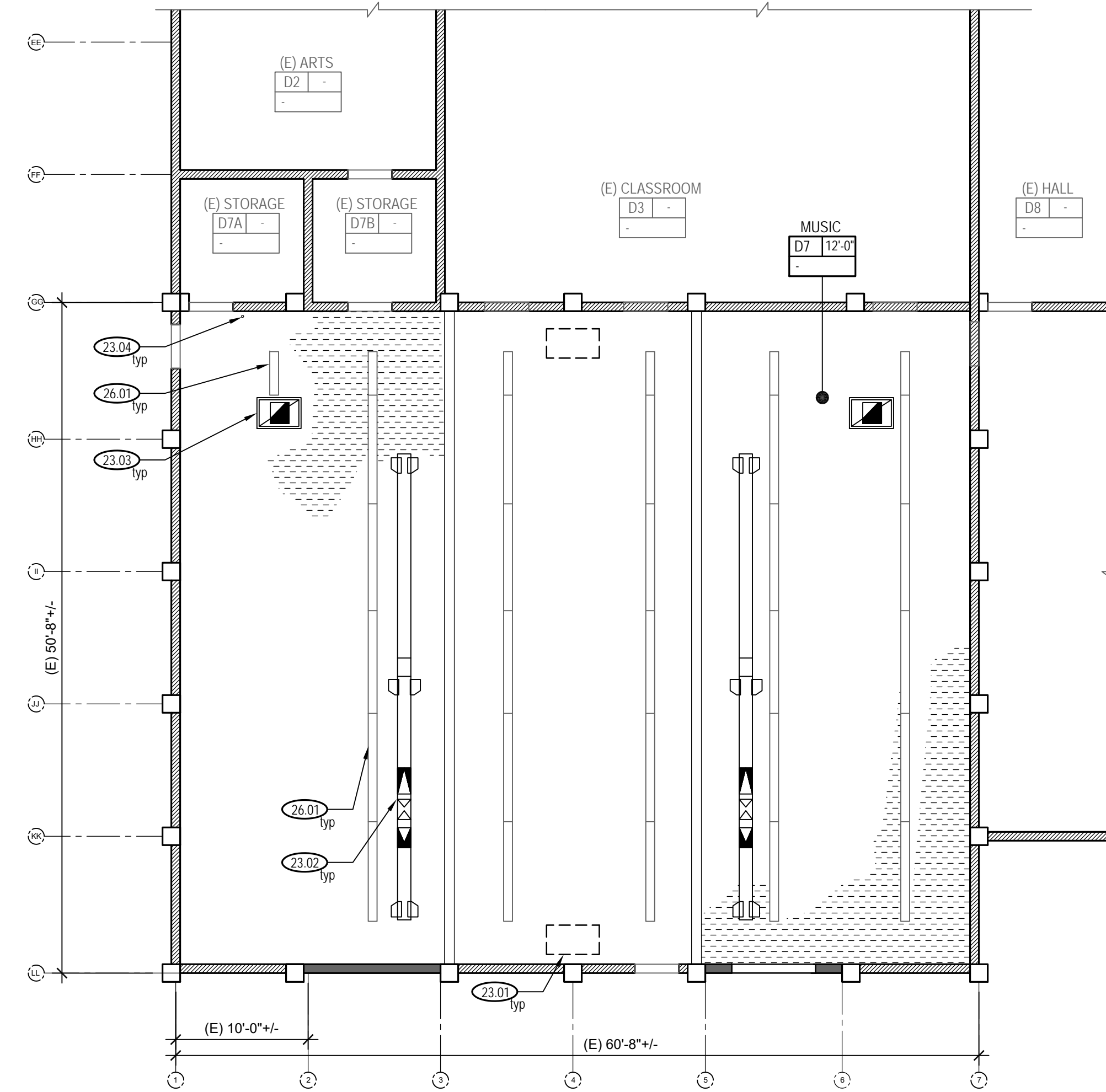
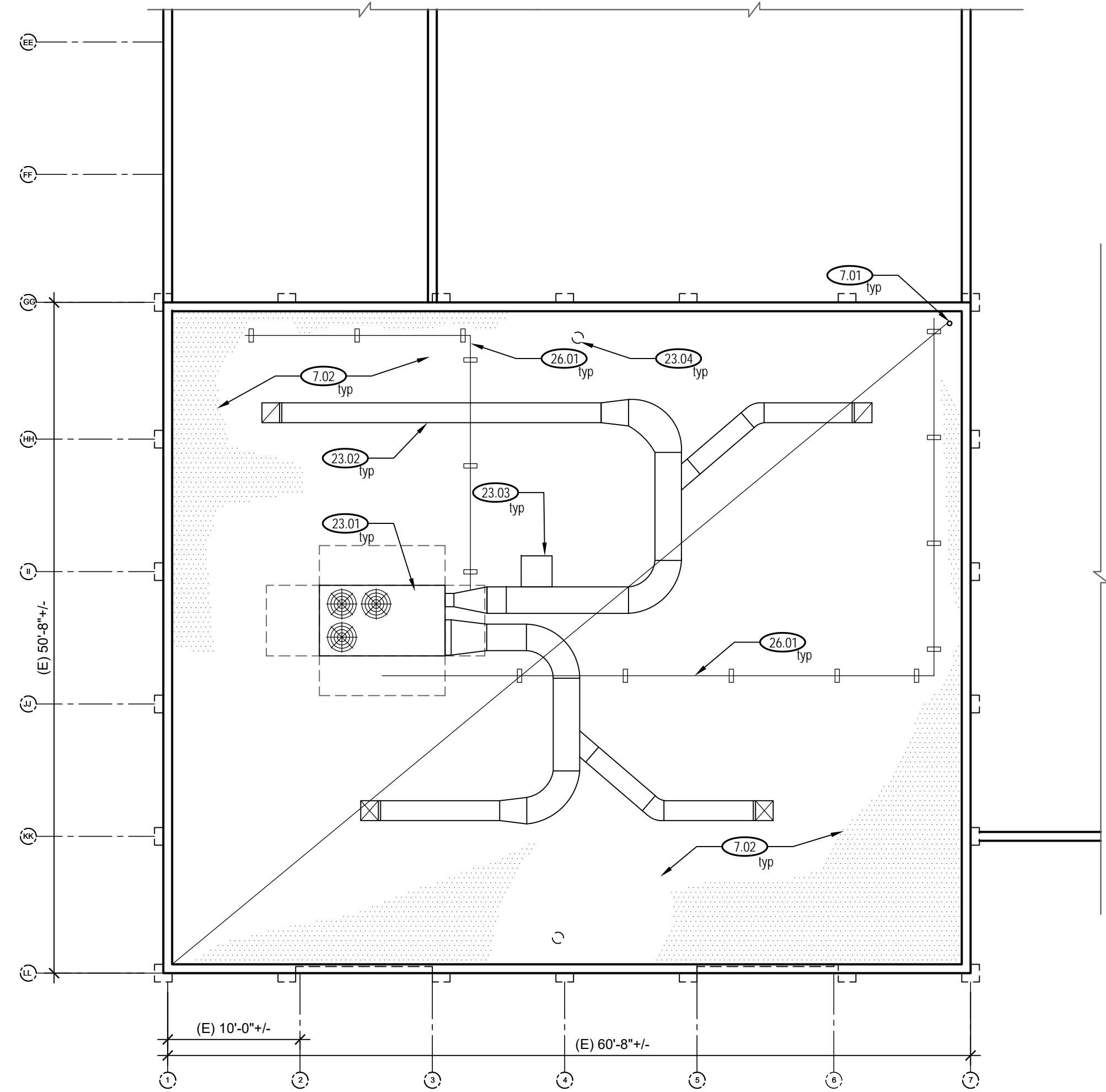
- Contractor to protect all existing conduits, equipment, piping, penetrations, etc. which are to remain, typ.
- NOTE: Not all roof-mounted equipment is represented on the architectural plan. Coordinate with all other plans (mechanical, electrical, structural and plumbing) for scope of work which may not be fully represented here. All equipment, drains, outlets, piping, and projection locations are approximate. Contractor shall be responsible for all measurements and field verification of all items.
- Existing roofing, gutters, roof drain assemblies, flashings and trim are to remain. Verify in field all existing conditions prior to bid. Provide penetrations and patching as required for full warranty with manufacturer.
- Roofing patch and sleeper installation must include warranty per specifications. The Contractor is responsible to include ALL work required to properly and professionally install mechanical, electrical, and plumbing components and patch (E) roofing using Manufacturer and Industry Standard details, and to provide ALL adjustments as required for a fully warranted installation. Submit all required and recommended details on the shop drawings.
- All (E) systems are to be fully operational at the completion of the project. Contractor to confirm all system in area of work are functioning properly at the start of the project. Notify architect of any (E) systems which are not functional prior to commencing work. Once work begins, contractor assumes full responsibility for operation of systems.
- Refer to sheet A-12.1 and specifications for all roofing details and requirements related to roofing penetration and patch back. All roofing must be warranted by the manufacturer.

9.01 ROOF PLAN KEY NOTES

- 7.01 (E) Roof drain to remain, typ.
- 7.02 (E) Class A built up roofing system to remain, typ. Cut and patch as required to install roof mount mechanical units and piping systems. Refer to details 11 & 12/A-12.1 and all other drawings for full scope of work.
- 23.01 Mechanical unit, typ. Refer to all other plans for requirements.
- 23.02 Mechanical duct work, typ. Refer to all other plans for requirements.
- 23.03 Exhaust unit, typ. Refer to mechanical plans and details.
- 23.04 (E) Flue to be removed, provide patching of roof to match existing, typ. See all other plans for additional information.
- 26.01 Electrical, gas and condensate conduit, typ. Refer to all other plans for requirements and scope of work.

ROOF PLAN LEGEND

(E) Class A built-up roofing system to remain, typ.



SCOPE OF WORK SUMMARY

The following scope is to be provided throughout the entire area of work unless noted otherwise:

- CEILING**
- Provide R38 batt insulation and scrim between joists.
 - Provide scrim sheet over entire ceiling. Install behind fire alarm devices and j-boxes, but over all conduits. Refer to detail 8/A-12.1 and specs.
 - Coordinate with structural, mechanical, electrical for identified scope of work, typ.

9.10 RCP KEYNOTES

- 23.01 (E) Heater to be demolished, typ. See ALL other plans for additional information and scope of work.
- 23.02 Mechanical duct work, typ. Refer to all other plans for requirements and scope of work.
- 23.03 Mechanical grille, typ. Refer to all other plans for requirements and scope of work.
- 23.04 Condensate pipe from mechanical unit. See mechanical plans, paint to match wall color.
- 26.01 (E) Lighting to remain, typ.

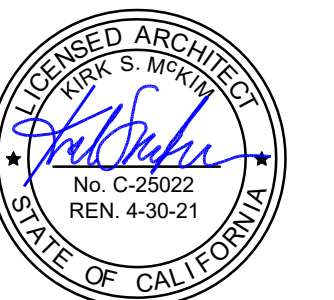
REFLECTED CEILING PLAN LEGEND

Scrim, typ. See detail 8/A-12.1



Engineer Seal

Architect Seal



Project Title

Morrill Middle School
1970 Morrill Ave.
San Jose, CA 95132
HVAC Upgrade

Client

Berryessa Union School District
1376 Piedmont Rd.
San Jose, CA 95132

No	Revisions/Submissions	Date

Drawing Title

EXTERIOR ELEVATIONS & DOOR SCHEDULE

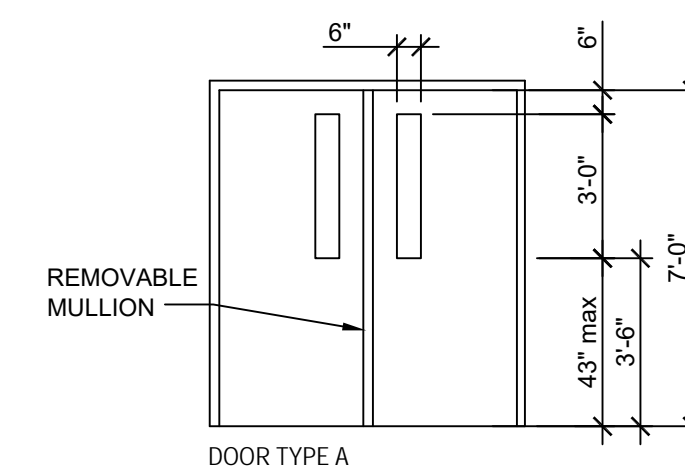
Project No. 1919 Date December 16, 2019

CD Drawing Number **A-6.1**

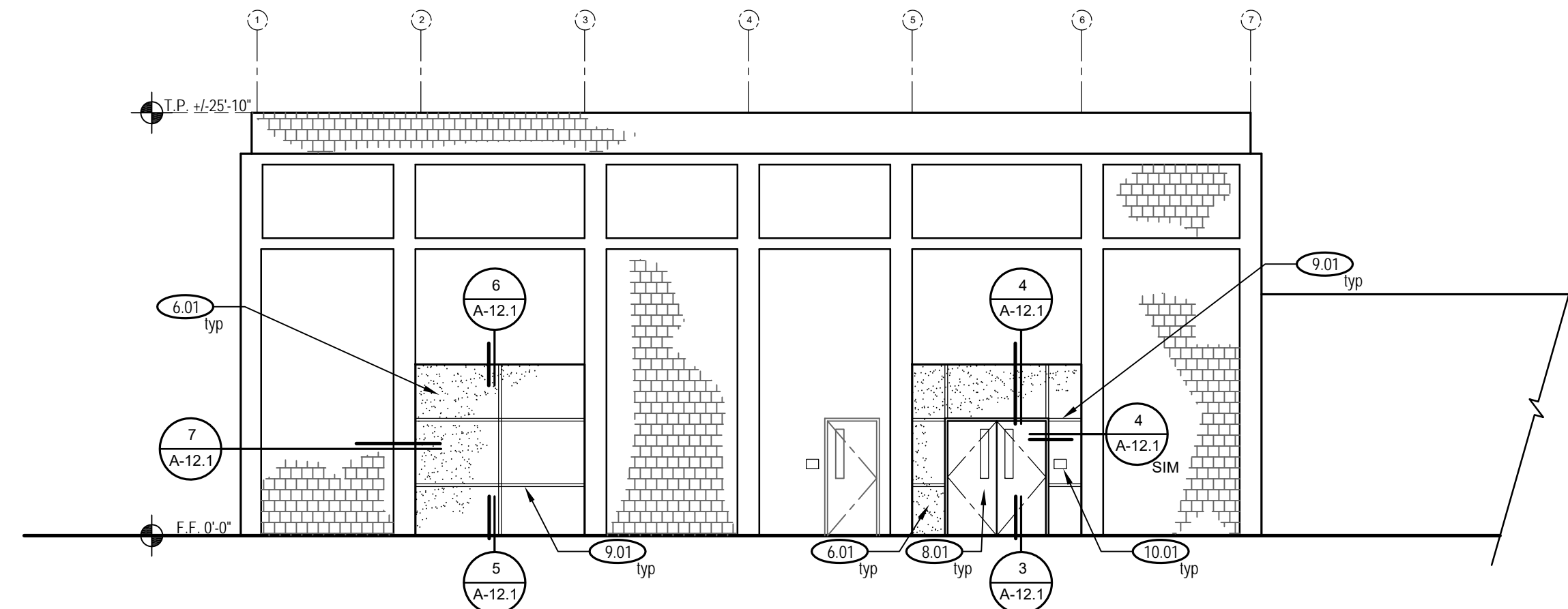
DOOR NO.	ROOM NAME	DOOR SIZE (W X H)	TYPE	CONSTR.	FRAME	FINISH	RATING	GLAZING	HDWR GRP	ROOM SIGN	DETAIL REF. SHEET A-12.1			SIGN NAME	REMARKS
											HEAD	JAMB	SILL		
107.1	MUSIC ROOM	(2) 3070	A	HM	HM	P	T	1	ID, E	6	7	5	MUSIC		
107.2	MUSIC ROOM	(E)							ID, E				MUSIC		
107.3	MUSIC ROOM								ID, E				MUSIC		
107.4	STORAGE								ID				STORAGE		
107.5	STORAGE								ID				STORAGE		

DOOR AND GLAZING TYPICAL LEGEND
(E) = EXISTING TO REMAIN
E = EXIT SIGNAGE
FR = FIRE RATED
HM = HOLLOW METAL
ID = ROOM I.D. SIGNAGE
P = FIELD PAINTED
T = TEMPERED GLASS

DOOR GENERAL NOTES:
1. All doors to have a clear and level landing on both sides and a 1/2" max difference between the floor/landing and the top of the threshold.
2. Latching or locking doors in a path-of-travel are operated with a single effort by level type hardware, panic bars, push-pull activating bars or other hardware designed to provide passage without requiring the ability to grasp the opening hardware.
3. Hand-activated door opening hardware is to be centered at a minimum of 34" but no more than 44" above the floor.
4. Maximum effort to operate doors shall not exceed 5 pounds, with such pull or push effort being applied at right angles to hinged doors except at fire-rated doorways where force required to open be increased to 15 pounds, maximum.
5. The lower 10" of all doors shall be smooth and uninterrupted, to allow the door to be opened by a wheelchair footrest without creating a trap or hazardous condition (narrow frame doors may use a 10" high smooth panel on the push side of the door).
6. Glazing in doors to be tempered & to have a u-value < or equal to 0.30, SHGC < or equal to 0.30 & visible transmittance > or equal to 0.60
7. Exit doors shall be operable from the inside without the use of a key or any special knowledge or effort.
8. Every required exit doorway serving an occupant load of ten or more shall be of a size to permit the installation of a door not less than 3 feet in nominal width and not less than 6 feet 8 inches in nominal height.
9. Doors and gates to be a minimum of 36" to provide a clear width of 32" when open.
10. Dimensions are +/- per the Owner's as-built plans. Verify door size in field.
11. Where noted on door schedule provide room identification and exit signs at each door location. Refer to sign details 9,10,13/A-12.1.



3 DOOR SCHEDULE



EXTERIOR ELEVATION - GENERAL NOTES

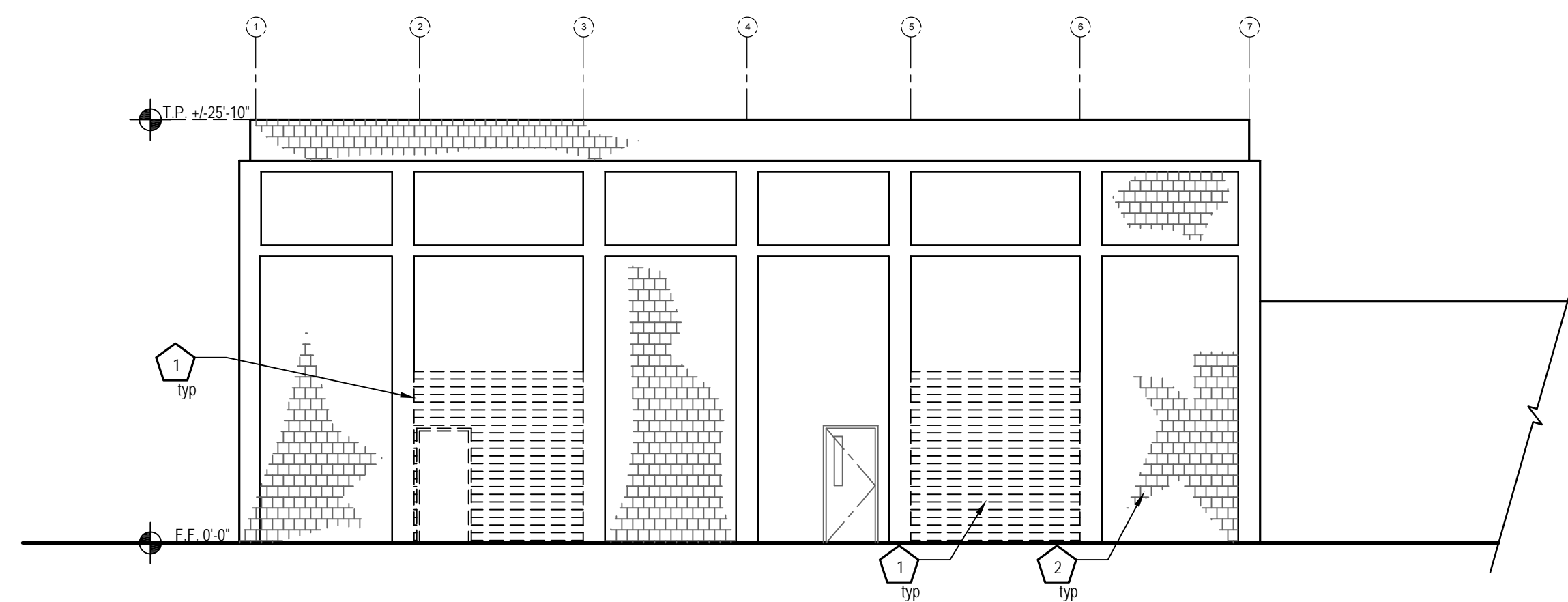
- Contractor to protect all existing surfaces to remain.
- Provide all demolition and patch back required for all scope of work.
- Paint all infill areas to match existing color, typ.

ELEVATION KEYNOTES

- 6.01 Wall infill, typ. See Structural S-2.0. Patch with cement plaster system per specifications and paint, typ. See 5,6,7/A-12.1, typ.
- 8.01 Door system, paint, typ. Coordinate with schedules, typ.
- 9.01 2" cement plaster reveal, typ. See detail 15/A-12.1
- 10.01 Room signage, typ. Refer to details on A-12.1 and door schedule, typ.

2 SOUTH ELEVATION

1/8" = 1'-0"



DEMOLITION KEYNOTES

- 1 (E) Roll up door system to be demolished
- 2 (E) CMU wall to remain

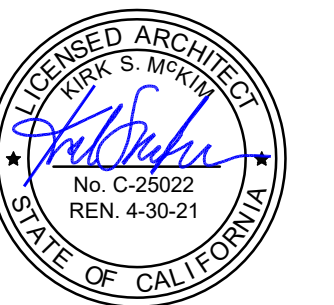
1 SOUTH ELEVATION-DEMO

1/8" = 1'-0"



Engineer Seal

Architect Seal



Project Title

Morrill Middle School
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HVAC Upgrade

Client

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San Jose, CA 95132

No	Revisions/Submissions	Date

Drawing Title

INTERIOR ELEVATIONS

Project No.
1919

Date
December 16, 2019

CD

Drawing Number
A-8.1

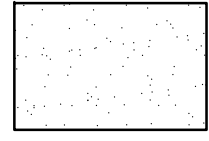
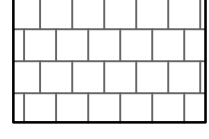
**INTERIOR ELEVATIONS -
GENERAL NOTES**

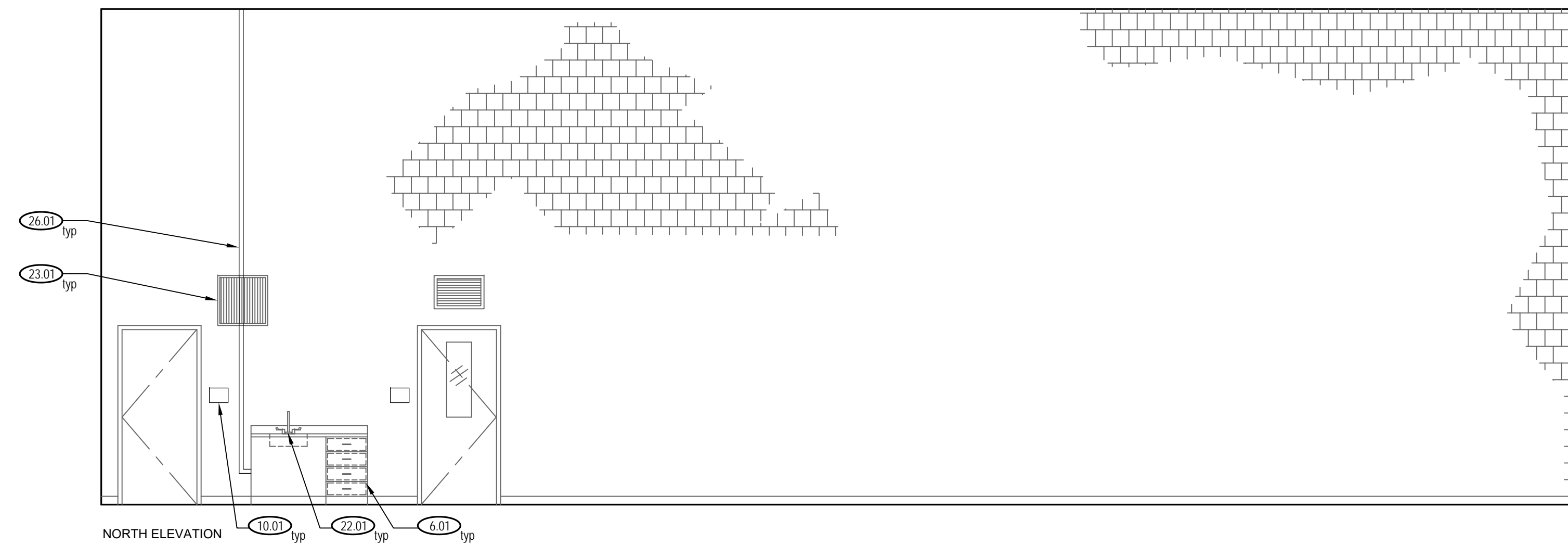
- Contractor to protect all existing items to remain. Apply and maintain protective plastic sheeting at all surfaces to remain.

ELEVATION KEYNOTES

- 6.01 (E) Casework to remain, typ.
- 6.02 Wall infill to be painted to match existing, typ. See Structural.
- 8.01 Door system, typ. Paint door and frame.
- 9.01 (E) Top set base to remain, typ.
- 9.02 Top set base to match existing, typ.
- 10.01 Signage, typ. Refer to schedule on A-6.1 and details on A-12.1
- 10.02 Occupant load signage, typ. Refer to detail 14/A-12.1.
- 22.01 (E) Sink to remain, typ.
- 23.01 (E) Mechanical grille to remain, typ.
- 26.01 Condensate drain line, typ. Refer to Mechanical drawings.

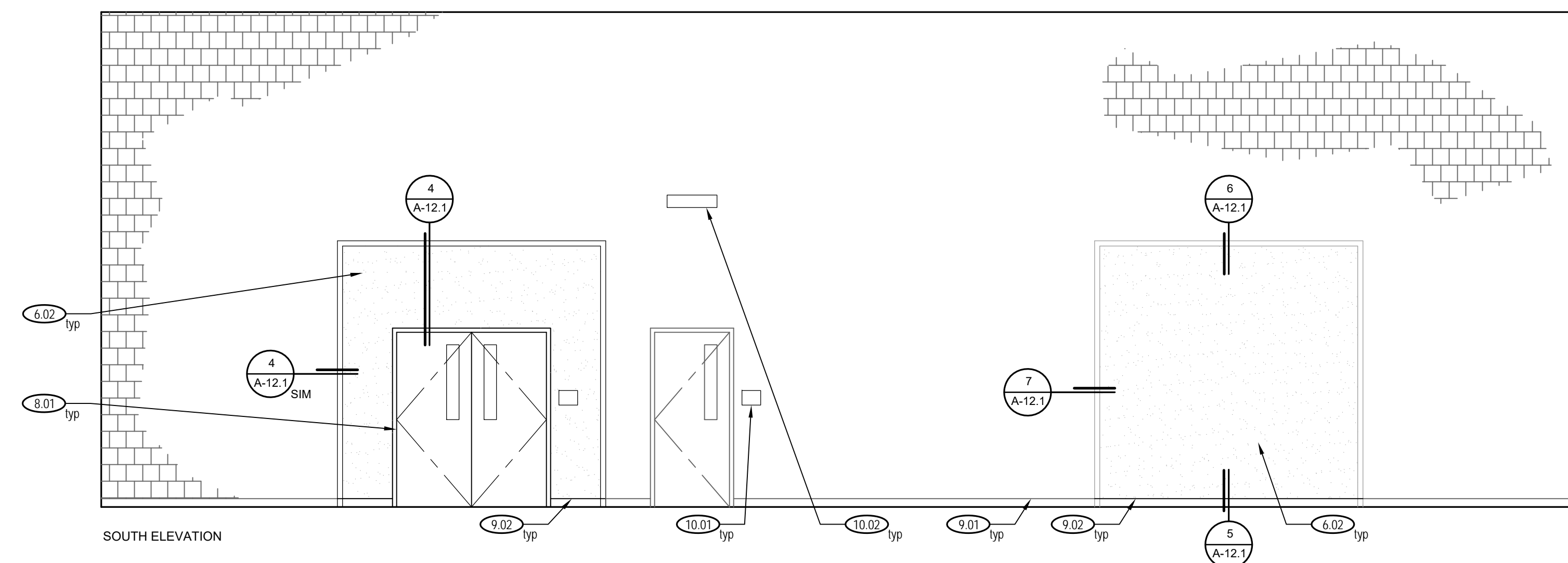
INTERIOR ELEVATION LEGEND

-  Painted gyp board, typ.
-  (E) CMU to remain, typ.



2 MUSIC ROOM D7

1/4" = 1'-0"



1 MUSIC ROOM D7

1/4" = 1'-0"

--	--	--	--	--	--	--

20		16		12		8		4	TRUNCATED DOMES 3" = 1'-0"
----	--	----	--	----	--	---	--	---	-------------------------------

--	--	--	--	--	--	--	--	--	--

19		15		11		7		3	ACCESSIBLE CURB RAMP 1/4" = 1'-0"
----	--	----	--	----	--	---	--	---	--------------------------------------

--	--	--	--	--	--	--	--	--	--

18		14		10		6		2	CONCRETE WALK EDGE AT A.C. PAVING 1" = 1'-0"
----	--	----	--	----	--	---	--	---	---

									<p>TYPE 1: 24"W x 24"H, HEAVY-GAUGE (16GA) ALUMINUM WITH PRISMATIC REFLECTIVE WHITE BACKGROUND & 1" HIGH BLACK TEXT STATING: *UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE. \$250 FINE. TOWED VEHICLES MAY BE RECLAIMED AT (ADDRESS) OR BY TELEPHONING (NUMBER). *DISTRICT SHALL PROVIDE ADDRESS AND PHONE NUMBER TO INCLUDE ON SIGN.</p>
--	--	--	--	--	--	--	--	--	--

17		13		9		5	TOW AWAY PARKING SIGNAGE N.T.S.	1	CONCRETE WALK CONTROL JOINT 1" = 1'-0"
----	--	----	--	---	--	---	------------------------------------	---	---

Regulatory Agency Approval

DSA: 01 -118687 / File: 43-7

McKim Design Group
4595 Cherry Avenue, First Floor, San Jose, CA 95118
ph. (408) 927-8110 fax (408) 927-8112

Engineer Seal

Architect Seal

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No	Revisions/Submissions	Date

Drawing Title

DETAILS

Project No. 1919 Date December 16, 2019

Drawing Number **CD A-12.1.1**

STRUCTURAL GENERAL NOTES

- GENERAL**
- THESE DRAWINGS ARE COPY RIGHTED INSTRUMENTS OF SERVICE OF HOHBACH-LEWIN, INC. FOR USE ONLY ON THIS PROJECT.
- CONTRACTOR RESPONSIBILITY - CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES AND SAFETY PRECAUTIONS, INCLUDING BUT NOT LIMITED TO SHORING AND TEMPORARY BRACING.
- DIMENSIONS - USE WRITTEN DIMENSIONS ONLY. VERIFY ALL DIMENSIONS AT JOB SITE BEFORE COMMENCING WORK AND REPORT ANY DISCREPANCIES. WHERE NO DIMENSIONS ARE PROVIDED, OBTAIN CLARIFICATION PRIOR TO PROCEEDING WITH WORK. DO NOT SCALE DRAWINGS.
- COORDINATION - OPENINGS THROUGH WALLS AND FLOORS FOR MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE COORDINATED BY CONTRACTOR AND CONSTRUCTED PER TYPICAL DETAILS SHOWN IN THESE DOCUMENTS. NO MECHANICAL OR ELECTRICAL SYSTEM COMPONENTS SHALL BE EMBEDDED IN SLABS OR WALLS UNLESS SPECIFICALLY DETAILED IN THESE DOCUMENTS.
- OMISSIONS AND CONFLICTS - OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE CONSTRUCTION DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM. IF CERTAIN FEATURES ARE NOT FULLY DELINEATED IN THE CONSTRUCTION DOCUMENTS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE DELINEATED.
- STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
- THERE SHALL BE NO CHANGE IN SIZE OR DIMENSION OF A STRUCTURAL MEMBER, NOR SHALL ANY OPENINGS BE MADE IN ANY STRUCTURAL MEMBER, WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON THE STRUCTURE. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE STRUCTURE AT THE TIME THE LOADS ARE IMPOSED.
- THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS.
- SEE DRAWINGS OTHER THAN STRUCTURAL FOR: TYPES OF FLOOR FINISH AND THEIR LOCATION, DEPRESSIONS IN FLOOR SLABS, OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MECHANICAL FEATURES, AND ROADWAY PAVING, WALKS, RAMPS, STAIRS, CURBS, ETC.
- TYPICAL DETAILS - DETAILS NOTED AS TYPICAL ARE APPLICABLE WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS AND WHEREVER THE CONDITION OCCURS THROUGHOUT THE PROJECT, INCLUDING LOCATIONS WHERE THE DETAIL IS NOT EXPLICITLY SPECIFIED OR REFERENCED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY LOCATIONS WHERE TYPICAL DETAILS ARE APPLICABLE PRIOR TO CONSTRUCTION.

EXISTING CONSTRUCTION CONDITIONS:

- SHORING:** THE CONTRACTOR SHALL PROVIDE SHORING WHEREVER NECESSARY TO ALLOW INSTALLATION OF THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL SHORING AND TEMPORARY WORK REQUIRED THROUGHOUT THE PROGRESS OF THE WORK.
- EXISTING CONSTRUCTION:** EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS WAS OBTAINED FROM LIMITED VISUAL OBSERVATIONS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD OF ALL EXCEPTIONS AND RECEIVE DIRECTION PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
- DEMOLITION:** THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND WITH APPROPRIATE TOOLS IN ORDER TO NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED DEMOLITION.

DESIGN BASIS

- APPLICABLE CODE:** CALIFORNIA BUILDING CODE (CBC), 2016 EDITION.
- LIVE LOADS:**
 - ROOF: VARIES WITH SLOPE (20 psf max.)
- VERTICAL LOAD - ROOF SNOW LOAD:** XXXX psf
- LATERAL LOADS:**
 - DESIGN WIND CRITERIA: PER ASCE 7-10
 - ULTIMATE DESIGN WIND SPEED: 115 mph
 - NOMINAL DESIGN WIND SPEED: 84 mph
 - WIND EXPOSURE: C
 - DESIGN SEISMIC CRITERIA:
 - SITE CLASS: D
 - $S_{DS} = 1.11g$
 - $S_{D1} = 0.69g$
 - IMPORTANCE FACTOR, $I = 1.25$
 - SEISMIC DESIGN CATEGORY: D
 - RISK CATEGORY = III

WOOD

- FRAMING LUMBER - DOUGLAS FIR U.O.N.:**
 - JOISTS AND RAFTERS: NO. 1
 - MOISTURE CONTENT SHALL NOT EXCEED 19% FOR ROOF SUPPORT MEMBERS AND SHALL NOT EXCEED 15% FOR WALL STRUCTURAL MEMBERS (I.E. HEADERS, TOP PLATES, SILLS AND STUDS. 2x MEMBERS SHALL BE STAMPED "S-DRY", RMT PRE-MANUFACTURED MEMBERS PER IR 23-10 IS AN ACCEPTABLE ALTERNATE TO SOLID SAWN LUMBER.
- FRAMING HARDWARE, AS MANUFACTURED BY SIMPSON, OR ALTERNATE APPROVED BY THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT. SIMPSON DESIGNATIONS USED.**
- NAILS:**
 - COMMON WIRE GAGE U.O.N. NAILING TO CONFORM TO CBC TABLE 2304.10.1 U.O.N.
 - GALVANIZED NAILS SHALL BE HOT-DIPPED WHERE OCCURS.
- BOLTS: ASTM A307. PROVIDE WASHER UNDER HEADS AND NUTS.**
- PROVIDE LATERAL SUPPORT FOR BEAMS, JOISTS AND RAFTERS PER CBC SECTION 2308.4.6.**
- LAG SCREWS PER ANSI/ ASME STANDARD B19.2.1 PROVIDE LEAD HOLE SAME DIAMETER AND DEPTH AS SHANK AND THEN DRILL HOLE 60% - 70% OF SHANK DIAMETER FOR THREADED PORTIONS.**

STRUCTURAL SHEET INDEX

S1.0	STRUCTURAL GENERAL NOTES AND PARTIAL ROOF PLAN
S2.0	STRUCTURAL DETAILS

ABBREVIATIONS

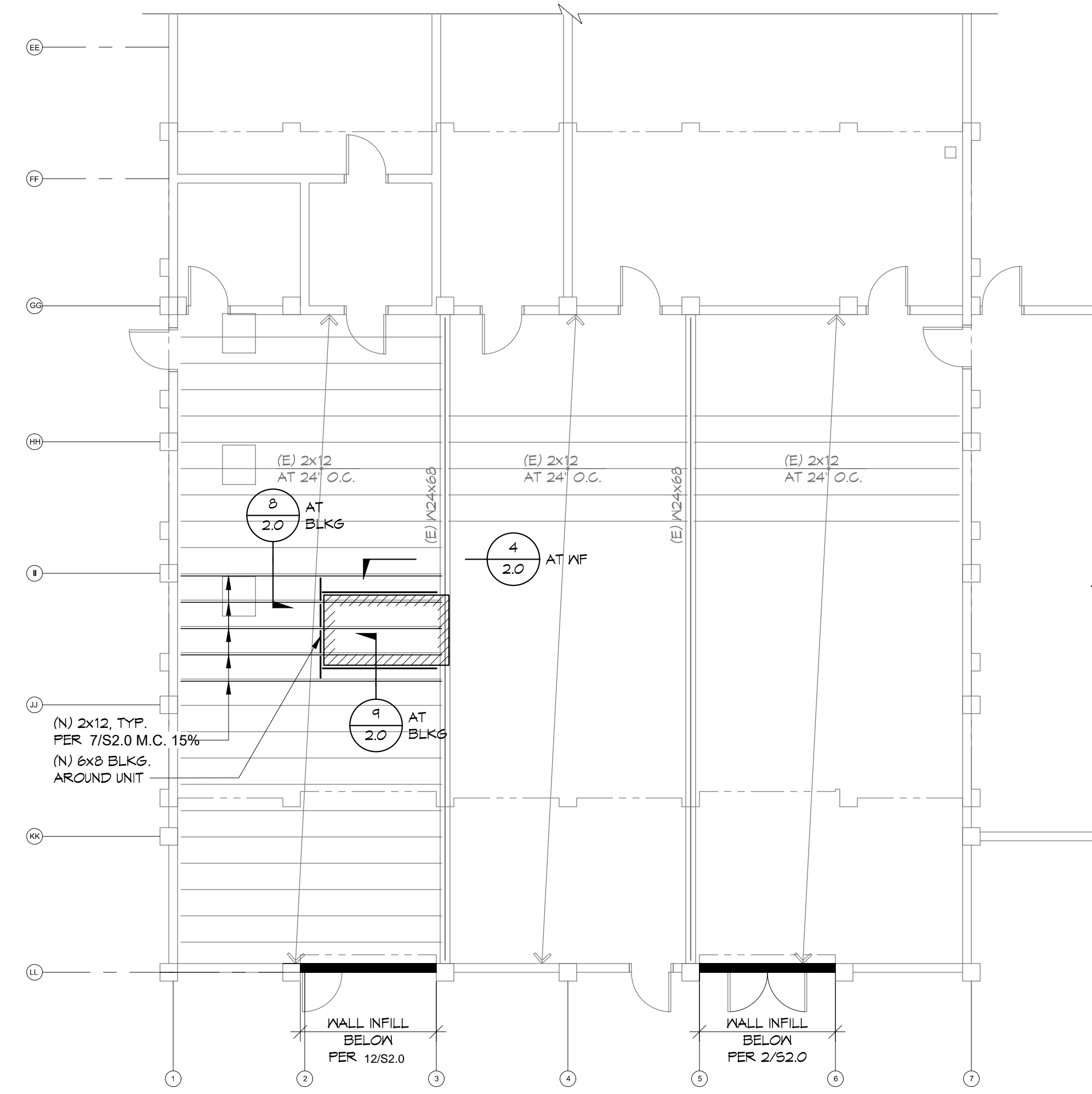
4	AND	LONG.	LONGITUDINAL
@	AT	L.V.F.	LOW-VELOCITY FASTENER
A.B.	ANCHOR BOLT		
ADD'L.	ADDITIONAL	MAX.	MAXIMUM
ARCH.	ARCHITECTURAL	M.B.	MACHINE BOLTS (UNFINISHED)
AYC.	ALASKAN YELLOW CEDAR	MIN.	MINIMUM
B.L.D.S.	BUILDING	(N)	NEAR
BLKS.	BLOCKING	N.S.	NEAR SIDE
BM.	BEAM	N.T.S.	NOT TO SCALE
B.N.	BOUNDARY NAIL		
B.O.C.	BOTTOM OF CONCRETE	O.C.	ON CENTER
BOT.	BOTTOM	OPP.	OPPOSITE
CL	CENTER LINE	PL.	PLATE
C.G.S.	CENTER OF GRAVITY OF	PLY.	PLYWOOD
	POST-TENSIONING STRAND	P.T.	PRESERVATIVE TREATED
C.J.	CONTROL JOINT	P/T	POST-TENSION
CLR.	CLEAR COVER		
COL.	COLUMN		
COMP.	COMPRESSION	R.C.J.	ROUGHENED CONSTRUCTION JOINT
CONC.	CONCRETE	REINF.	REINFORCEMENT
CONT.	CONTINUOUS	REGRD.	REQUIRED
DBL.	DOUBLE	S.A.D.	SEE ARCHITECTURAL DRAWINGS
DBO.	DRAWING BY OTHER	S.C.D.	SEE CIVIL DRAWINGS
DET.	DETAIL	SCHED.	SCHEDULE
D.F.	DOUGLAS FIR	S.D.B.O.	SEE DRAWINGS BY OTHERS
DWG.	DRAWING	SIM.	SIMILAR
(E)	EXISTING	S.J.	SEISMIC JOINT
EA.	EACH	S.L.R.S.	SEISMIC LOAD RESISTING SYSTEM
EB.M.	EXTERIOR BUILDING MAINTENANCE	S.M.D.	SEE MECHANICAL DRAWINGS
		SPEC.	SPECIFICATION
ELEV.	ELEVATION	STD.	STANDARD
EN.	EACH WAY	SQ.	SQUARE
EXT.	EXTERIOR	SYM.	SYMMETRICAL
FDN.	FOUNDATION	T&B	TOP AND BOTTOM
F.F.	FINISH FLOOR	T&G	TONGUE AND GROOVE
FLR.	FLOOR	T.D.	TIE DOWN
F.N.	FIELD NAIL	T.O.C.	TOP OF CONCRETE
F.O.C.	FACE OF CONCRETE	T.O.F.	TOP OF FOOTING
F.O.S.	FACE OF STUD	T.O.S.	TOP OF STEEL FRAMING
F.R.T.	FIRE RETARDANT TREATED	T.O.P.	TOP OF PLATE
F.S.	FAR SIDE	TRANS.	TRANSVERSE
FTG.	FOOTING	TYP.	TYPICAL
G.C.	GENERAL CONTRACTOR	U.O.N.	UNLESS OTHERWISE NOTED
H.D.	HOLDOWN	VERT.	VERTICAL
HDR.	HEADER	V.I.F.	VERIFY IN FIELD
HGR.	HANGER		
HORIZ.	HORIZONTAL	W	WITH
HSS	HOLLOW STEEL SECTION	W/O	WITHOUT
J.H.	JOIST HANGER	W.J.	WALL JOINT

NAILING SCHEDULE (CBC TABLE 2304.10.1)

CONNECTION ¹	NAILING ²	NAILING ²
1. Blocking between ceiling joists, rafters or trusses to top plate or other framing below (Roof)	(3) 8d	Ea. end, toenail
2. Ceiling joist to top plate	(3) 8d	Toenail
3. Ceiling joist not attached to parallel rafter, laps over partitions	(3) 16d	Face nail
4. Collar tie to rafter	(3) 10d	Face nail
5. Rafter or roof truss to top plate	(3) 10d	Toenail
6. Roof rafters to ridge valley or hip rafters; or roof rafter to 2 inch ridge beam.	(2) 16d (3) 10d	End nail Toenail
7. Stud to stud (not a braced wall panels)	16d	24" o.c. face nail
8. Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d	16" o.c. face nail
9. Built-up header (2" to 2" header)	16d	16" o.c. each edge, face nail
10. Continuous header to stud	(4) 8d	Toenail
11. Top plate to top plate	16d	16" o.c. face nail
12. Top plate to top plate, at end joints	(3) 16d	Each side of end joint
13. Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d	12" o.c. face nail
14. Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	(2) 16d	16" o.c. face nail
15. Stud to bottom plate	(4) 8d	Toenail
16. Top plate to stud	(2) 16d	End nail
17. Top plates, laps at corners and intersections	(2) 16d	Face nail
18. Joist to sill, top plate, or girder	(3) 8d	Toenail
19. Rim joist, band joist, or blocking to top plate, sill or other framing below	8d	6" o.c. toenail
20. 2" planks (plank & beam - floor & roof)	(2) 16d 20d	Each bearing 32" o.c. face nail at top and bottom staggered on sides.
21. Built-up girders and beams, 2" lumber layers	(2) 20d	Ends and at each splice, face nail
22. Ledger strip supporting joists or rafters	(3) 16d	Each joist or rafter, face nail
23. Joists to band joist or rim joist	(3) 16d	End nail
24. Bridging or blocking to joist, rafter or truss (floor)	(2) 8d	Each end toe nail

NOTES:
 1. NAILINGS PER SCHEDULE ABOVE IS TO BE USED WHERE NAILING IS NOT SPECIFIED ON PLANS OR DETAILS. NAILING PER PLANS AND DETAILS SUPERCEDES NAILING SCHEDULE UNLESS APPROVED BY ENGINEER.
 2. NAIL SPECIFIED ARE COMMON:
 8d = 2 1/2"x0.131"
 10d = 3"x0.148"
 16d = 3 1/2"x0.162"

FOR ALTERNATE NAILING AND INFORMATION NOT SHOWN, SEE COMPLETE TABLE CBC 2304.10.1



PARTIAL ROOF PLAN

1/8"=1'-0"



Regulatory Agency Approval

DSA: 01 -118687 / File: 43-7



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Engineer Seal

Architect Seal

Project Title

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 1970 Morrill Ave.
 San Jose, CA 95132
HVAC Upgrade

Client

Berrysa Union School District
 1376 Piedmont Rd.
 San Jose, CA 95132

No	Revisions/Submissions	Date

Drawing Title

STRUCTURAL GENERAL NOTES AND PARTIAL PLAN

Project No. 1919 Date December 16, 2019

CD Drawing Number S1.0

BUILDING CODE AND STANDARDS:

- 2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, (PART 1, TITLE 24, C.C.R.)
- 2016 CALIFORNIA BUILDING CODE VOLUMES 1 AND 2 (PART 2, TITLE 24, C.C.R.)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC), (PART 3, TITLE 24, C.C.R.)
- 2016 CALIFORNIA MECHANICAL CODE (CMC), (PART 4, TITLE 24, C.C.R.)
- 2016 CALIFORNIA PLUMBING CODE (CPC), (PART 5, TITLE 24, C.C.R.)
- 2016 CALIFORNIA ENERGY CODE, (PART 6, TITLE 24, C.C.R.)
- 2016 CALIFORNIA FIRE CODE, (PART 9 & 12, TITLE 24, C.C.R.)
- 2016 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR)

SCHOOL EQUIPMENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
- MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THESE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

Piping, Ductwork, and Electrical Distribution System Bracing Note

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7, 13.6.8 and 2016 CBC, Sections 1616A. 1.24, 1616A. 1.25 and 1616A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a pre-approved installation guide (e.g.,SMACNA or OSHPD OPM), copies of the bracing systems installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP MD PP E -Option 1: Detailed on these approved drawings with project specific notes and details as listed on the mechanical index.

MP MD PP E -Option 2: Shall comply with applicable OSHPD Pre-Approval (OPM #) _____

MP MD PP E -Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD Edition (2009), including any addenda. Fasteners and other attachments not specifically identified in the SMACNA Seismic Restraint Manual, OSHPD Edition, are detailed on the approved drawings with project specific notes, and details. The details shall account for the applicable Seismic Hazard Level _____ and Connection Level _____ for the project and conditions.

LEGEND

SYMBOL	DESCRIPTION
	SECTION A / SHEET M1
TB1-01	UNIT TYPE, FLOOR, AH UNIT NO.
M1	EQUIP. MARK NO. M1 / SEE EQUIP. SCHEDULE
	REVISION
	SHEET NOTE
20x18	INDICATES OVAL DUCT
	NUMBER OF DIFFUSERS
	DIFFUSER OR GRILLE NECK SIZE
	DIFFUSER OR GRILLE MARK No.
	AMOUNT OF CFM DESIGNED
	HUMIDISTAT
	HUMIDITY SENSOR
	THERMOSTAT MTD. @ 48" AFF. MAX. TO TOP OF BOX
	TEMPERATURE SENSOR
	MAIN AIR, 20 PSIG
	TEMPERATURE SWITCH
	PRESSURE SENSOR
	POINT OF CONNECTION
	POINT OF DEMOLITION
	(E) PIPING TO BE DEMOLISHED

LEGEND

SINGLE LINE	DOUBLE LINE	DESCRIPTION
		FIRST DIMENSION DENOTES VIEW SHOWN; RECTANGULAR OR OVAL
		RISE OR DROP IN DIRECTION OF ARROW, RECTANGULAR DUCT
		TRANSITION, 18" MIN. LENGTH, 15" MAX. EACH SIDE. ROUND OR RECTANGULAR
		ACOUSTICAL LINED DUCT, LIMIT AS SHOWN. DIMENSIONS ARE NET INSIDE
		RECTANGULAR TO ROUND TRANSITION
		90° ELL W/TURNING VANES
		18 INCH ROUND DUCT
		RISE OR DROP IN DIRECTION OF ARROW, ROUND DUCT
		ROUND DUCT ELBOW; R/D=1.5MIN.
		SUPPLY DUCT TURNING TOWARD
		SUPPLY DUCT TURNING AWAY
		RETURN DUCT TURNING TOWARD
		RETURN DUCT TURNING AWAY
		EXHAUST DUCT TURNING TOWARD
		EXHAUST DUCT TURNING AWAY
		ROUND DUCT TURNING TOWARD
		ROUND DUCT TURNING AWAY
		BALANCE DAMPER OR VOLUME DAMPER
		COMBINATION FIRE & SMOKE DAMPER (FSD), FIRE DAMPER (FD), BACKDRAFT DAMPER (BDD) MOTORIZED DAMPER (MD)
		GAS PIPING
		CONDENSATE PIPING
		GAS VALVE
		CAP FOR FUTURE
		LINE CONTINUED
		PIPE UP
		PIPE DOWN
		PIPE RISE OR DROP
		PIPE CONNECTION FROM TOP
		PIPE CONNECTION FROM BOTTOM

ABBREVIATIONS

ABBREV	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT
AL2	ACOUSTICAL LINING - 2" THICK
AMB	AMBIENT
AO	ANALOG OUTPUT
AP	ACCESS PANEL (IN CEILING OR WALL)
ARCH	ARCHITECTURAL
AUX	AUXILIARY CONTACT
BDD	BACKDRAFT DAMPER
BD	BALANCE DAMPER
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CEILING DIFFUSER
CC	CONDENSATE DRAIN LINE
CFM	CUBIC FEET OF AIR PER MINUTE
CI	DDC CONTACT INPUT
CL	CENTERLINE
CLG	CEILING
CO	DDC CONTACT OUTPUT
CW	CITY WATER (DOMESTIC)
DA	DAMPER ACTUATOR
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DI	DIGITAL INPUT
DN	DOWN
DO	DIGITAL OUTPUT
DP	DIFFERENTIAL PRESSURE
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DS	DISCONNECT SWITCH
DWG	DRAWING
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
EQ	EQUAL
EXH	EXHAUST
FCV	FLOW CONTROL VALVE
FD	FIRE DAMPER
FF	FINISHED FLOOR
FLR	FLOOR
FM	FLOW METER
FMS	FLOW MEASURING STATION
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FBM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH, FLOOR SINK
FSD	FIRE/SMOKE DAMPER
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HB	HOSE BIB
HC	HEATING COIL
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTG	HEATING
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
IN	INCH
IP	INTERFACE PANEL
KW, KW/H	KILOWATT, KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MD	MANUAL DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN; NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
PCV	PRESSURE CONTROL VALVE
PD	PRESSURE DROP
PG	PRESSURE GAUGE
PH	PREHEAT COIL
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VALVE
S/S	START/STOP
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWING
SD	SMOKE DETECTOR
SOV	SHUT OFF VALVE
SMS	SHEET METAL SCREW
SP	STATIC PRESSURE OR SET POINT
SPEC	SPECIFICATION
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
STRUC	STRUCTURAL
STD	SEE STRUCTURAL DRAWING
SWS	SIDE WALL SUPPLY
TCP	TEMPERATURE CONTROL PANEL
TCV	TEMPERATURE CONTROL VALVE
TEMP	TEMPERATURE
TS	TEMPERATURE SENSOR
T*STAT	THERMOSTAT
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UMC	UNIFORM MECHANICAL CODE
UON	UNLESS OTHERWISE NOTED
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
W	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WF	WIDE FLANGE

PLUMBING GENERAL NOTES

- PLUMBING PIPING AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.4 OF THE CALIFORNIA PLUMBING CODE AND IN CHAPTER 6 OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE.
- REPORT TO ARCHITECT IN WRITING, CONDITIONS WHICH WILL PREVENT PROPER PROVISION OF THIS WORK.
- ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND ENGINEER. ANY PORTION OF THE WORK FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE CONTRACTOR AS PART OF THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER.
- ANY PIPING OFFSETS REQUIRED AS RESULT OF EXISTING JOB CONDITIONS, OR LACK OF COORDINATION WITH OTHER TRADES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER AND IS SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER.
- FOR PIPES PENETRATING WALL/CASEWORK, PROVIDE STAINLESS STEEL ESCUTCHEON PLATES AROUND PIPES AT ALL EXPOSED LOCATIONS.
- ALL CONDENSATE CONNECTIONS AND PIPING SHALL BE LEAK TESTED AND COMMISSIONED. LEAK TEST SHALL ALSO BE PERFORMED AT THE DRAIN PANS.
- DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC. THE CONTRACTOR SHALL COORDINATE LOCATION OF ALL PLUMBING PIPING WITH ALL OTHER TRADES ON THIS PROJECT.
- ALL PIPES AND RELATED EQUIPMENT SHALL BE SUPPORTED AND BRACED PER THE 2016 CALIFORNIA BUILDING CODE.
- PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE-STOPPED. FIRE STOPPING SHALL BE A PROVIDED MATERIAL AS PRESCRIBED IN CALIFORNIA BUILDING CODE SECTION 713.
- ROUTING OF PLUMBING PIPING SYSTEMS SHALL BE COORDINATED BY CONTRACTOR.
- CONTRACTOR IS TO MAINTAIN RECORDED "AS BUILT" INFORMATION ON ALL EXISTING SERVICES UNCOVERED DURING CONSTRUCTION AND ALL NEW SERVICES BEING INSTALLED. "AS BUILT" INFORMATION SHALL BE CLEARLY MARKED ON A REPRODUCIBLE PRINT OF CONTRACT DRAWINGS. RECORDED INFORMATION SHALL INCLUDE ROUTING AND INVERT ELEVATIONS. AT THE COMPLETION OF THE CONTRACT THE CONTRACTOR SHALL TURN RECORDED "AS BUILT" DRAWINGS IN HARD COPY AND CAD FORMAT OVER TO THE OWNER REPRESENTATIVE.
- ADVISE THE ARCHITECT / ENGINEER IN WRITING IN THE EVENT A CONFLICT OCCURS BETWEEN REQUIREMENTS OF THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL BEAR ALL COSTS FOR RELOCATION OF NEW OR EXISTING EQUIPMENT, PIPES, AND APPURTENANCES TO PROPERLY INSTALL CONTRACT WORK, CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION OF CONFLICT TO ARCHITECT/ENGINEER PRIOR TO INSTALLATION OF CONTRACT WORK.
- DO NOT SCALE DRAWINGS.
- CERTAIN VERTICAL AND HORIZONTAL OFFSETS ARE SHOWN IN PIPING TO INDICATE THE GENERAL RELATIONSHIP OF THE SYSTEMS WITHIN THE SPACE AVAILABLE FOR INSTALLATION. PROVIDE ADDITIONAL OFFSETS SIMILAR TO THOSE SHOWN AS REQUIRED TO COORDINATE WITH INSTALLATION REQUIREMENTS OF OTHER SYSTEMS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE ALL WORK WITH THE ARCHITECT / OWNER INCLUDING CONSTRUCTION ACCESS AND STORAGE.
- ALL UTILITIES REQUIRED FOR THE CONTINUOUS OPERATION OF ALL EXISTING FACILITIES MUST BE MAINTAINED IN SERVICE AT ALL TIMES.
- ALL REMOVED ITEMS DEEMED TO HAVE VALUE BY THE FACILITY SHALL BE SALVAGED, AND DELIVERED TO PLACE OF STORAGE AT THE SITE. ALL OTHER ITEMS MUST BE DISPOSED OF OFF SITE IN A LEGAL MANNER.
- WHERE EXISTING CONSTRUCTION IS CUT DAMAGED OR REMODELED, PATCH WITH MATERIALS TO MATCH IN KIND, AND APPROVED BY THE ARCHITECT. PATCHING SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- PLUMBING WORK TO BE DEMOLISHED IS SHOWN CALLED BY SHEET NOTES.
- THE ARCHITECT AND/OR ENGINEER'S WILL REVIEW SUBMITTED SHOP DRAWINGS AND DOCUMENTS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS.

MECHANICAL DRAWING INDEX

MP0.1	MECHANICAL LEGENDS, NOTES, AND DRAWING INDEX
MP0.2	MECHANICAL TITLE 24 DOCUMENTATION
MP0.3	MECHANICAL TITLE 24 DOCUMENTATION
MP2.1	MECHANICAL AND PLUMBING FLOOR PLANS
MP2.2	MECHANICAL AND PLUMBING ROOF PLANS
MP4.1	MECHANICAL SCHEDULES
MP6.1	MECHANICAL DETAILS
MP6.2	MECHANICAL DETAILS
MP7.1	MECHANICAL CONTROLS

GRAND TOTAL: 9

SCOPE OF WORK

THE MECHANICAL SCOPE OF WORK INVOLVES DEMOLISHING THE EXISTING SPACE HEATERS AND ALL ASSOCIATED GAS PIPING AND EXHAUST FLUES, AND PROVIDING NEW ROOFTOP PACKAGE UNIT WITH MODULATING POWER ECONOMIZER EXHAUST FAN TO PROVIDE HEATING AND COOLING TO THE EXISTING MUSIC ROOM AT MORRILL MIDDLE SCHOOL

MECHANICAL GENERAL NOTES

- ALL NEW CONSTRUCTION SHALL CONFORM TO CURRENT CITY, STATE AND NATIONAL CODES, STANDARDS AND REQUIREMENTS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS IN THE FIELD BEFORE COMMENCEMENT OF THE WORK AND SHALL REPORT ANY DISCREPANCIES AND/OR INCONSISTENCIES BETWEEN THE DRAWINGS AND EXISTING FIELD CONDITIONS TO THE ENGINEER IN WRITING FOR CLARIFICATIONS BEFORE COMMENCEMENT OF THE WORK. FOR ALL EXISTING INSTALLATIONS (DUCTWORK AND PIPING) INSIDE THE BUILDING, DUCTWORK RE-CONNECTIONS TO THE NEW A/C UNITS, AS WELL AS EXISTING THERMOSTATS AND SENSORS, THE CONTRACTOR SHALL REFER TO AS BUILT DRAWINGS.
- THE CONTRACTOR SHALL CONSULT ARCHITECTURAL AND OTHER DRAWINGS RELATED TO THIS PROJECT FOR ADDITIONAL WORK TO BE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL TRADE PERMITS AND INSPECTIONS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE WORK AS SET FORTH IN THESE PLANS UNLESS OTHERWISE NOTED. THE SUBMISSION OF A BID OR PROPOSAL SHALL BE CONSIDERED AS CONCLUSIVE EVIDENCE THAT THE CONTRACTOR IS THOROUGHLY FAMILIAR WITH THE INTENT OF THE CONTRACT DOCUMENTS, AND NO CHANGE ORDER WILL BE ISSUED FOR ANY ADDITIONAL LABOR OR MATERIAL REQUIRED TO RECTIFY ANY DISCREPANCY DISCOVERED OR REPORTED TO THE ENGINEER AFTER THE EXECUTION OF THE CONTRACT.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND EXISTING CONDITIONS SHALL BE FIELD VERIFIED FOR EXACT LOCATION AND SIZES OF EXISTING UTILITIES, THE PROPOSED POINT OF CONNECTIONS TO EXISTING SYSTEMS AND NEW ROUTINGS. THE CONTRACTOR IS RESPONSIBLE TO THOROUGHLY VERIFY ALL EXISTING CONDITIONS BEFORE SUBMITTING HIS BID.
- ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO APPROVAL BY DISTRICT. ANY PORTION OF THE DEFECTIVE WORK SHALL BE REPLACED BY THE CONTRACTOR AS PART OF THIS CONTRACT AT NO ADDITIONAL COST TO THE DISTRICT.
- ANY NEW OR EXISTING DUCT OR PIPING OFFSETS REQUIRED AS RESULT OF JOB CONDITIONS OR LACK OF COORDINATION WITH OTHER TRADES, SHALL BE PROVIDED AT NO ADDITIONAL COST TO DISTRICT AND SUBJECT TO ARCHITECT'S REVIEW.
- IF NECESSARY CONTRACTOR SHALL PROVIDE DUCTWORK, TRANSITIONS, ETC. EQUIVALENT TO THE FREE AREA OF DUCTWORK THAT IS SHOWN ON DRAWINGS, TO PREVENT ANY CONFLICT WITH EXISTING CONDITIONS, OTHER BUILDING SERVICES OR TO RESOLVE DUCTWORK CONFLICTS. PROVIDE SHOP DRAWINGS, AS SPECIFIED, PRIOR TO THE COMMENCEMENT OF THE WORK.
- EQUIPMENT, MATERIALS AND PRODUCTS SPECIFICALLY IDENTIFIED, DESCRIBED AND SCHEDULED ON THE CONTRACT DOCUMENTS ARE THE BASIS OF DESIGN FOR THIS PROJECT. OTHER MANUFACTURERS OR SUPPLIERS WHICH MAY BE NAMED IN THE DOCUMENTS ONLY INDICATE GENERAL ACCEPTABILITY OF THE MANUFACTURERS OR SUPPLIERS AND SHALL BE CONSIDERED ALTERNATES. IT IS CONTRACTOR'S RESPONSIBILITY TO RESEARCH, SELECT, AND PROVE THROUGH THE SUBMITTAL & SHOP DRAWINGS PROCESS, THAT THE SPECIFIC MODEL, SIZE OR TYPE OF THE ALTERNATE PROPOSED MANUFACTURER BY THE CONTRACTOR IS EQUAL AND SHALL PERFORM EQUAL TO THE ITEMS WHICH ARE THE BASIS OF THE DESIGN FOR THIS PROJECT. OPERATIONAL CHARACTERISTICS FOR SUCH ITEMS, OVERALL DIMENSIONS, WEIGHTS, OUTLET VELOCITIES, POWER INPUT, SOUND LEVELS, EFFICIENCIES, ETC. SHALL BE CONSIDERED IN ADDITION TO THE OVERALL PERFORMANCE, OUTPUT AND PHYSICAL CONSTRAINTS.
- THE CONTRACTOR ASSUMES FULL RESPONSIBILITY THAT ALTERNATIVE ITEMS SUBSTITUTED FOR THE SCHEDULED MANUFACTURER WILL MEET THE DESIGN REQUIREMENTS AND IS RESPONSIBLE FOR THE COST OF REDESIGN AND MODIFICATIONS BY ALL TRADES NECESSARY DUE TO THIS SUBSTITUTION/ALTERNATE. REVISIONS OR ADDITIONAL WORK REQUIRED DUE TO THE USE OF SUBSTITUTE/ALTERNATE MATERIALS AND EQUIPMENT SHALL BE FULLY INDICATED ON DETAILED SHOP DRAWINGS SUBMITTED WITH SUBMITTAL.
- UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED, NOTCHED OR WELDED WITH OUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.
- DURING THE ROOF PATCHING PROVIDE TEMPORARY CAPS ON ALL PIPES AND DUCTWORK.
- MECHANICAL CONTRACTOR SHALL PROVIDE COORDINATION OF MECHANICAL, PLUMBING, ELECTRICAL SHOP DRAWINGS AND ALSO COORDINATE WITH EXISTING FIRE PROTECTION DRAWINGS WHICH ARE AVAILABLE. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH WORK PERFORMED BY OTHER SECTIONS/DIVISIONS IN ORDER TO ACCOMMODATE THE REQUIREMENTS OF THE PROJECT AND TO ENSURE ADEQUATE SPACE AND PROPER LOCATION FOR ALL NECESSARY WORK ON THIS PROJECT.
- THE ARCHITECT AND/OR ENGINEER'S WILL REVIEW SUBMITTED SHOP DRAWINGS AND DOCUMENTS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS.

DSA: 01 -118687 / File: 43-7



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Engineer Seal

ALFATECH

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SAN JOSE • SAN FRANCISCO • THAILAND • SINGAPORE
SYDNEY • MELBOURNE • DUBLIN • CORK • LONDON • DUBAI
At Project No. 219308



Architect Seal

Project Title

Morrill Middle School

1970 Morrill Ave.
San Jose, CA 95132

HVAC Upgrade

Client

Berryessa Union School District
1376 Piedmont Rd.
San Jose, CA 95132

No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

**MECHANICAL LEGENDS,
NOTES, AND DRAWING INDEX**

Project No. 1919 Date December 16, 2019

Drawing Number
CD MP0.1

A. MECHANICAL COMPLIANCE DOCUMENTS & WORKSHEETS (check box if worksheet is included)
 For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2016 Nonresidential Manual
 Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Comp. Doc./Worksheet #	Title
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02-A to 11-A). Required on plans for all submittals.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12-A to 18-A). Required on plans where applicable.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)
 Test Performed By: Tyler Lewis

Designer:
 This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
 The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
 Plancheck - The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A	
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Controlled Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
AC-1	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)
 Test Performed By: Tyler Lewis

Designer:
 This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
 The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
 Plancheck - The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked. Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description	MCH-12-A	MCH-13-A	MCH-14-A	MCH-15-A	MCH-16-A	MCH-17-A	MCH-18-A	
Equipment Requiring Testing or Verification	# of Units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
AC-1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Tyler Lewis
 Signature Date: 12/5/19
 Company: AlfaTech
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 Phone: 408-487-1200

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Timothy Chadwick
 Signature Date: 12/5/19
 Company: AlfaTech
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 License: M029729
 Phone: 408-487-1200

STATE OF CALIFORNIA
HVAC DRY & WET SYSTEM REQUIREMENTS
 CEC-NRCC-MCH-02-E (Revised 01/16)
 CERTIFICATE OF COMPLIANCE
 HVAC Dry System Requirements
 Project Name: BUSD Morrill Music Room Date Prepared: 12/5/19
 CALIFORNIA ENERGY COMMISSION
 NRCC-MCH-02-E
 (Page 1 of 3)

A. Equipment Tags and System Description¹- Dry Systems

	AC-1		
MANDATORY MEASURES	T-24 Sections	Reference to the Requirements in the Contract Documents²	
Heating Equipment Efficiency ³	110.1 or 110.2(a)	M4.1	
Cooling Equipment Efficiency ³	110.1 or 110.2(a)	M4.1	
HVAC or Heat Pump Thermostats	110.2(b), 110.2(c)	M2.1	
Furnace Standby Less Control	110.2(d)	N/A	
Low Leakage AHUs	110.2(f)	N/A	
Ventilation ⁴	120.1(b)	M0.2	
Demand Control Ventilation ⁵	120.1(c)4	M7.1	
Occupant Sensor Ventilation Control ⁶	120.1(c)5, 120.2(e)3	N/A	
Shutoff and Reset Controls ⁷	120.2(e)	N/A	
Outdoor Air and Exhaust Damper Control	120.2(f)	M4.1	
Isolation Zones	120.2(g)	N/A	
Automatic Demand Shed Controls	120.2(h)	N/A	
Economizer FDD	120.2(i)	N/A	
Duct Insulation	120.4	R.8	
PRESCRIPTIVE MEASURES			
Equipment is sized in conformance with 140.4 (a & b)	140.4(a & b)	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No
Supply Fan Pressure Control	140.4(c)	Y	
Simultaneous Heat/Cool ⁸	140.4(d)	Y	
Economizer	140.4(e)	N	
Heat and Cool Air Supply Reset	140.4(f)	N	
Electric Resistance Heating ⁹	140.4(g)	N	
Duct Leakage Sealing and Testing ¹⁰	140.4(i)	N	

Notes:
 1. Provide equipment tags (e.g. AHU 1 to 10) and system description (e.g. Single Duct VAV reheat) as appropriate. Multiple units with common requirements can be grouped together.
 2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
 3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. Where appliance standards apply (110.1), identify where equipment is required to be listed per Title 20 1601 et seq.
 4. Identify where the ventilation requirements are documented for each central HVAC system. Include references to both central unit schedules and sequences of operation. If one or more spaces is naturally ventilated identify where this is documented in the plans and specifications. Multiple zone central air systems must also provide a MCH-03-E compliance document.
 5. If one or more spaces has demand controlled ventilation identify where it is specified including the sensor specifications and the sequence of operation.
 6. If one or more space has occupant sensor ventilation control identify where it is specified including the sensor specifications and the sequence of operation.
 7. If the system is DDC identify the sequences for the system start/stop, optimal start, setback (if required) and setup (if required). For all systems identify the specification for the thermostats and time clocks (if applicable).
 8. Identify where the heating, cooling and deadband airflows are scheduled for this system. Include a reference to the specification of the zone controls. Provide a MCH-03-E compliance document.
 9. Enter N/A if there is no electric heating. If the system has electric heating indicate which exception to 140.4(g) applies.
 10. If duct leakage sealing and testing is required, a MCH-04-A compliance document must be submitted.

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

STATE OF CALIFORNIA
HVAC DRY & WET SYSTEM REQUIREMENTS
 CEC-NRCC-MCH-02-E (Revised 01/16)
 CERTIFICATE OF COMPLIANCE
 HVAC Dry & Wet System Requirements
 Project Name: BUSD Morrill Music Room Date Prepared: 12/5/19
 CALIFORNIA ENERGY COMMISSION
 NRCC-MCH-02-E
 (Page 2 of 3)

B. Equipment Tags and System Description¹- Wet Systems

	T-24 Sections	Reference to the Requirements in the Contract Documents ²	
MANDATORY MEASURES			
Heating Hot Water Equipment Efficiency ³	110.1		
Cooling Chilled and Condenser Water Equipment Efficiency ³	110.1, 140.4(i)		
Open and Closed Circuit Cooling Towers conductivity or flow-based controls	110.2(e) 1		
Open and Closed Circuit Cooling Towers Maximum Achievable Cycles of Concentration (LSI) ⁸	110.2(e) 2		
Open and Closed Circuit Cooling Towers Flow Meter with analog output	110.2(e) 3		
Open and Closed Circuit Cooling Towers Overflow Alarm	110.2(e) 4		
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators	110.2(e) 5		
Pipe Insulation	120.3		
PRESCRIPTIVE MEASURES			
Cooling Tower Fan Controls	140.4(h)2, 140.4(h)5	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No
Cooling Tower Flow Controls	140.4(h)3		
Centrifugal Fan Cooling Towers ⁴	140.4(h)4		
Air-Cooled Chiller Limitation ⁵	140.4(i)		
Variable Flow System Design	140.4(k)		
Chiller and Boiler Isolation	140.4(l)		
CHW and HNW Reset Controls	140.4(m)		
WLHP Isolation Valves	140.4(n)		
VSD on CHW, CW & WLHP Pumps >5HP	140.4(o)		
DP Sensor Location	140.4(p)		

Notes:
 1. Provide equipment tags (e.g. CH 1 to 3) or system description (e.g. CHW loop) as appropriate. Multiple units with common requirements can be grouped together.
 2. Provide references to plans (i.e. Drawing Sheet Numbers) and/or specifications (including Section name/number and relevant paragraphs) where each requirement is specified. Enter "N/A" if the requirement is not applicable to this system.
 3. The referenced plans and specifications must include all of the following information: equipment tag, equipment nominal capacity, Title 24 minimum efficiency requirements, and actual rated equipment efficiencies. Where multiple efficiency requirements are applicable (e.g. full- and part-load) include all. For chillers operating at non-standard efficiencies provide the Kd values. For chillers also note whether the efficiencies are Path A or Path B.
 4. Identify if cooling towers have propeller fans. If towers use centrifugal fans document which exception is used.
 5. If air-cooled chillers are used, document which exceptions have been used to comply with 140.4(i) and the total installed design capacity of the air-cooled chillers in the chilled water plant.
 6. Identify the existence of a completed MCH-06-E when open or closed circuit cooling towers are specified to be installed, otherwise enter "N/A".

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

STATE OF CALIFORNIA
HVAC SYSTEM REQUIREMENTS
 CEC-NRCC-MCH-02-E (Revised 01/16)
 CERTIFICATE OF COMPLIANCE
 HVAC Wet System Requirements
 Project Name: BUSD Morrill Music Room Date Prepared: 12/5/19
 CALIFORNIA ENERGY COMMISSION
 NRCC-MCH-02-E
 (Page 3 of 3)

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Tyler Lewis
 Signature Date: 12/5/19
 Company: AlfaTech
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 Phone: 408-487-1200

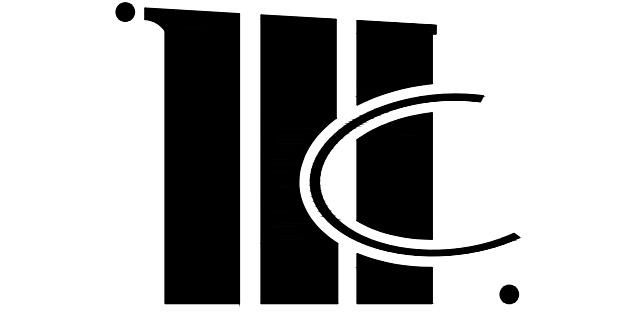
RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Timothy Chadwick
 Signature Date: 12/5/19
 Company: AlfaTech
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 License: M029729
 Phone: 408-487-1200

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance January 2016

Regulatory Agency Approval

DSA: 01 -118687 / File: 43-7



McKim Design Group
 4595 Cherry Avenue, First Floor, San Jose, CA 95118
 ph: (408) 927-8110 fax: (408) 927-8112

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 AT Project No. 219308



Architect Seal

Project Title

Morrill Middle School
 1970 Morrill Ave.
 San Jose, CA 95132
HVAC Upgrade

Client

Berryessa Union School District
 1376 Piedmont Rd.
 San Jose, CA 95132

No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

MECHANICAL TITLE 24 DOCUMENTATION

Project No. 1919 Date December 16, 2019

CD Drawing Number **MP0.2**

Project Name: BUSD Morrill Music Room Date Prepared: 12/5/19

A. Mechanical Ventilation and Reheat

In lieu of this compliance document, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet. Mechanical Ventilation and Reheat worksheet available on the Energy Commission's website at: <http://www.energy.ca.gov/title24/2016standards/>

Note: In all of the calculations that compare a supply quantity to the REQ'D V.A. quantity, the actual percentage of outdoor air in the supply is ignored.
 Areas in buildings for which natural ventilation is used should be clearly designated. Specifications must require that building operating instructions include explanations of the natural ventilation system.

ACTUAL DESIGN (FROM EQUIPMENT SCHEDULES, ETC)					AREA BASIS					OCCUPANCY BASIS			ROOM BASIS	MINIMUM	VAV REHEATED PRIMARY AIR CFM	VAV DEADBAND PRIMARY AIR CFM				
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
CONVENTIONAL BOX FAN	DESIGN PRIMARY COOLING AIRFLOW (CFM)	DESIGN PRIMARY DEADBAND AIRFLOW (CFM)	DESIGN PRIMARY REHEATED AIRFLOW (CFM)	CONTROLS TYPE: DDC (Y/N)	TRANSFER AIRFLOW (CFM)	CONDITIONED AREA (SF)	MIN CFM PER AREA	MIN CFM BY AREA	NUMBER OF PEOPLE	CFM PER PERSON	MIN CFM BY OCCUPANT	MIN CFM BY ROOM	REQ'D VENT AIRFLOW (CFM)	COMPLET?	BASED DESIGN PRIMARY COOLING AIR	MAXIMUM REHEAT (CFM)	COMPLET?	PRIMARY COOLING AIR	AIRFLOW	COMPLET?
AC-1	3,600			Yes		2,950	0.15	445	50	15	750		750	PASS						

Add Row Remove Last

Project Name: BUSD Morrill Music Room Date Prepared: 12/5/19

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.
 Documentation Author Name: Tyler Lewis
 Documentation Author Signature: *Tyler Lewis*
 Signature Date: 12/5/19
 Company: AlfaTech
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 Phone: 408-487-1200

RESPONSIBLE PERSON'S DECLARATION STATEMENT

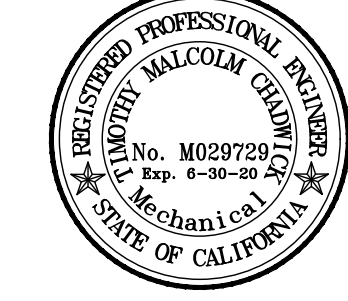
I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: J. Chell
 Responsible Designer Signature: *J. Chell*
 Date Signed: 12/5/19
 Company: AlfaTech
 License: M029729
 Address: 1321 Ridder Park Drive, Suite No. 50
 City/State/Zip: San Jose, CA 95131
 Phone: 408-487-1200



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Architect Seal

Project Title

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Client

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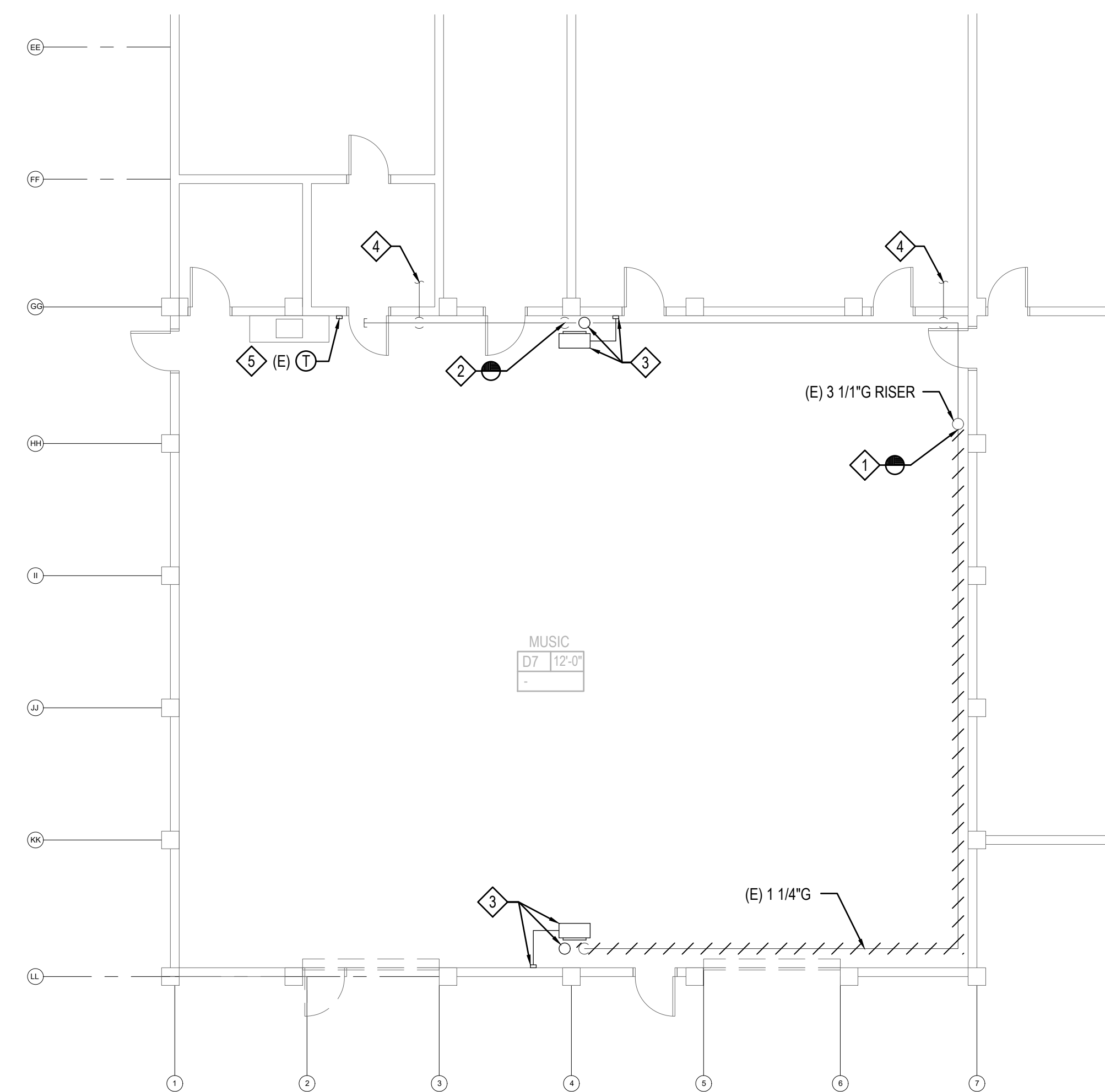
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-	DSA Submittal	12/18/19

Drawing Title

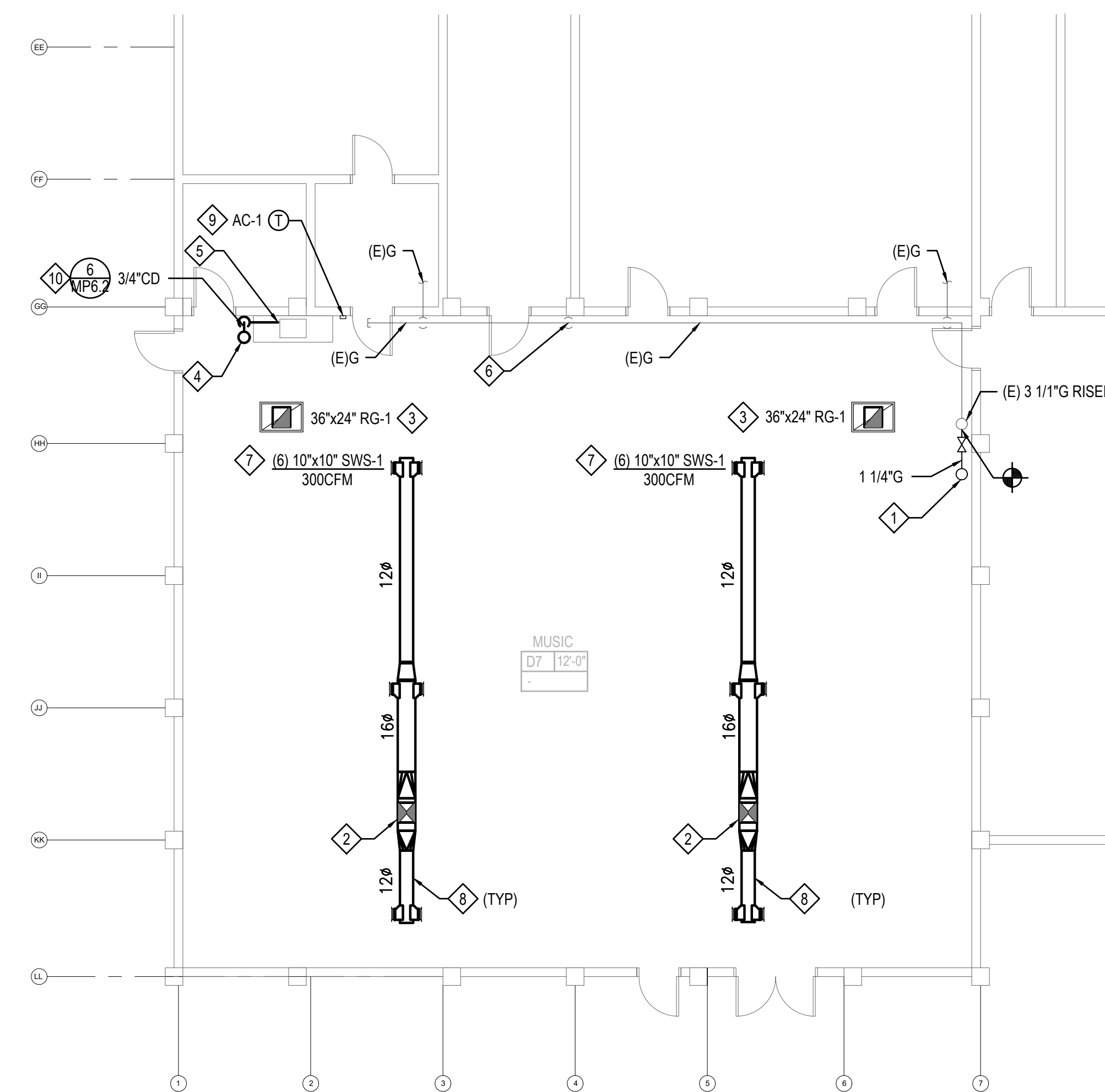
MECHANICAL TITLE 24
 DOCUMENTATION

Project No. 1919 Date December 16, 2019

CD Drawing Number **MP0.3**



2 MECHANICAL FLOOR PLAN (DEMOLITION)
1/8\"/>



1 MECHANICAL FLOOR PLAN
1/8\"/>

DEMOLITION CONSTRUCTION NOTES

- 1 CAP AND DISCONNECT GAS LINE AT THIS POINT.
- 2 DISCONNECT GAS FROM UNIT HEATER, REMOVE BACK TO SHUTOFF VALVE AND CAP.
- 3 REMOVE UNIT HEATER AND ALL ASSOCIATED FLUES AND CONTROLS/SWITCHES/CONDUIT.
- 4 EXISTING GAS PIPING TO REMAIN.
- 5 REMOVE EXISTING THERMOSTAT AND ALL ASSOCIATED CONDUIT.

CONSTRUCTION NOTES

- 1 GAS RISER UP TO ROOF. SEE SHEET MP2.2 FOR CONTINUATION.
- 2 18"x16" 2AL SUPPLY DOWN FROM ROOF INTO 16"x16" TEE FITTING WITH TURNING VANES. SEE SHEET MP2.2 FOR CONTINUATION.
- 3 18"x16" 2AL RETURN DUCT DOWN FROM ROOF INTO 18" HIGH 36"x24" RETURN PLENUM. INSTALL RG-1 AT BOTTOM OF LINED PLENUM.
- 4 CONDENSATE DRAIN DOWN FROM ROOF. SEE SHEET MP2.2 FOR CONTINUATION.
- 5 EXTEND 3/4" CONDENSATE DRAIN TO CONNECT TO EXISTING SINK WASTE TAILPIECE. PROVIDE STAINLESS STEEL ESCUTCHEON AT BOTH SIDES OF THE CASEWORK PENETRATION.
- 6 EXISTING GAS PIPE CAPPED IN VERTICAL FROM DEMOLITION PHASE.
- 7 INSTALL SWS-1 PER DETAIL 2/ MP6.1.
- 8 INSTALL DUCTWORK HANGERS PER DETAIL 1/ MP6.1.
- 9 INSTALL THERMOSTAT WITH CLEAR PROTECTIVE COVER. THERMOSTAT WIRING TO BE INSTALLED IN WIRE MOLD.
- 10 CONDENSATE DRAIN PIPE DOWN WALL TO BE OFFSET AROUND (E) TRANSFER GRILLE IN WALL. COORDINATE WITH GENERAL CONTRACTOR AS REQUIRED.

Architect Seal

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HVAC Upgrade

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1376 Piedmont Rd.
San Jose, CA 95132

No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

MECHANICAL AND PLUMBING
FLOOR PLANS

Project No. 1919 Date December 16, 2019

CD Drawing Number MP2.1



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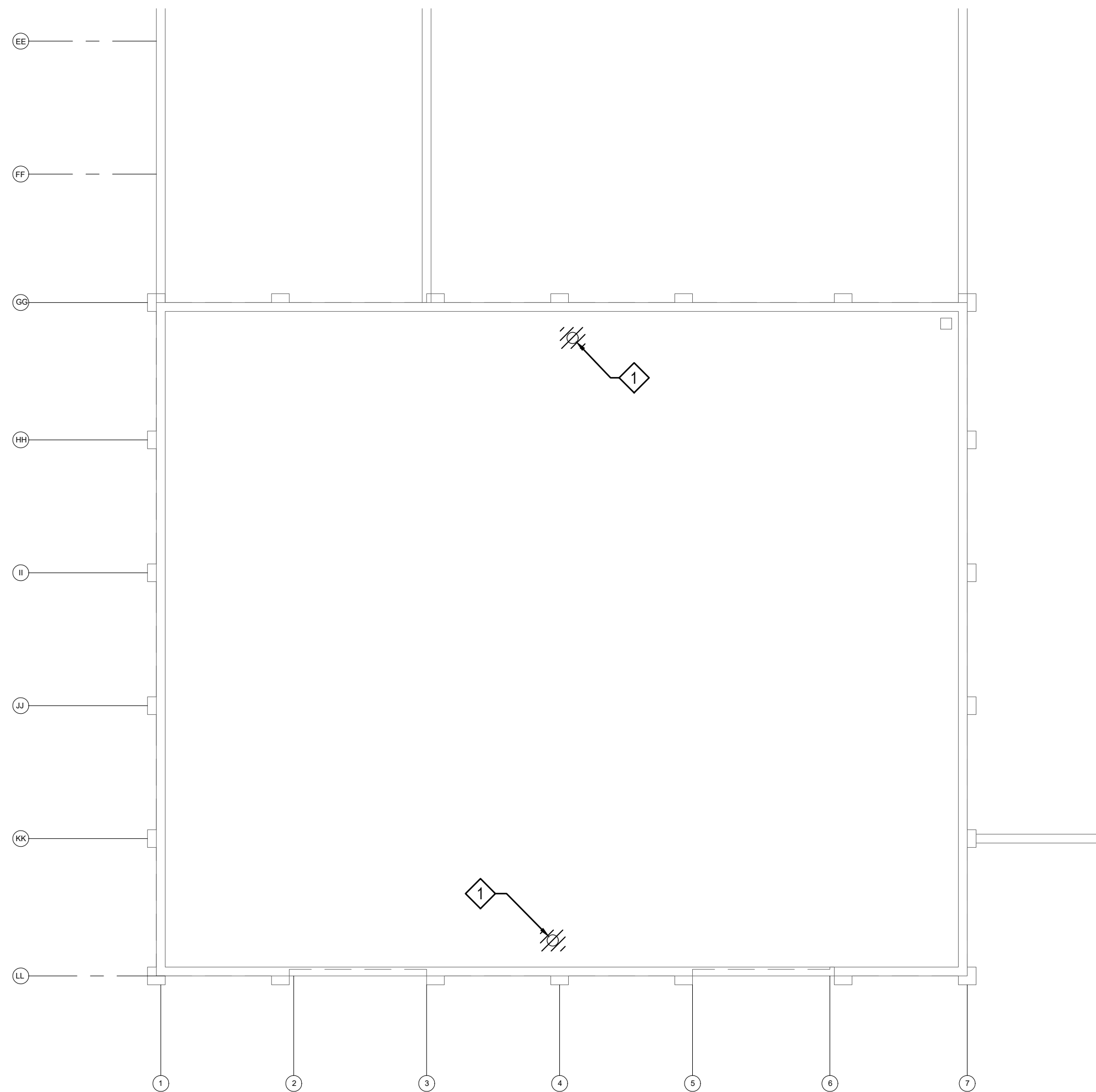
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-	DSA Submittal	12/18/19

Drawing Title

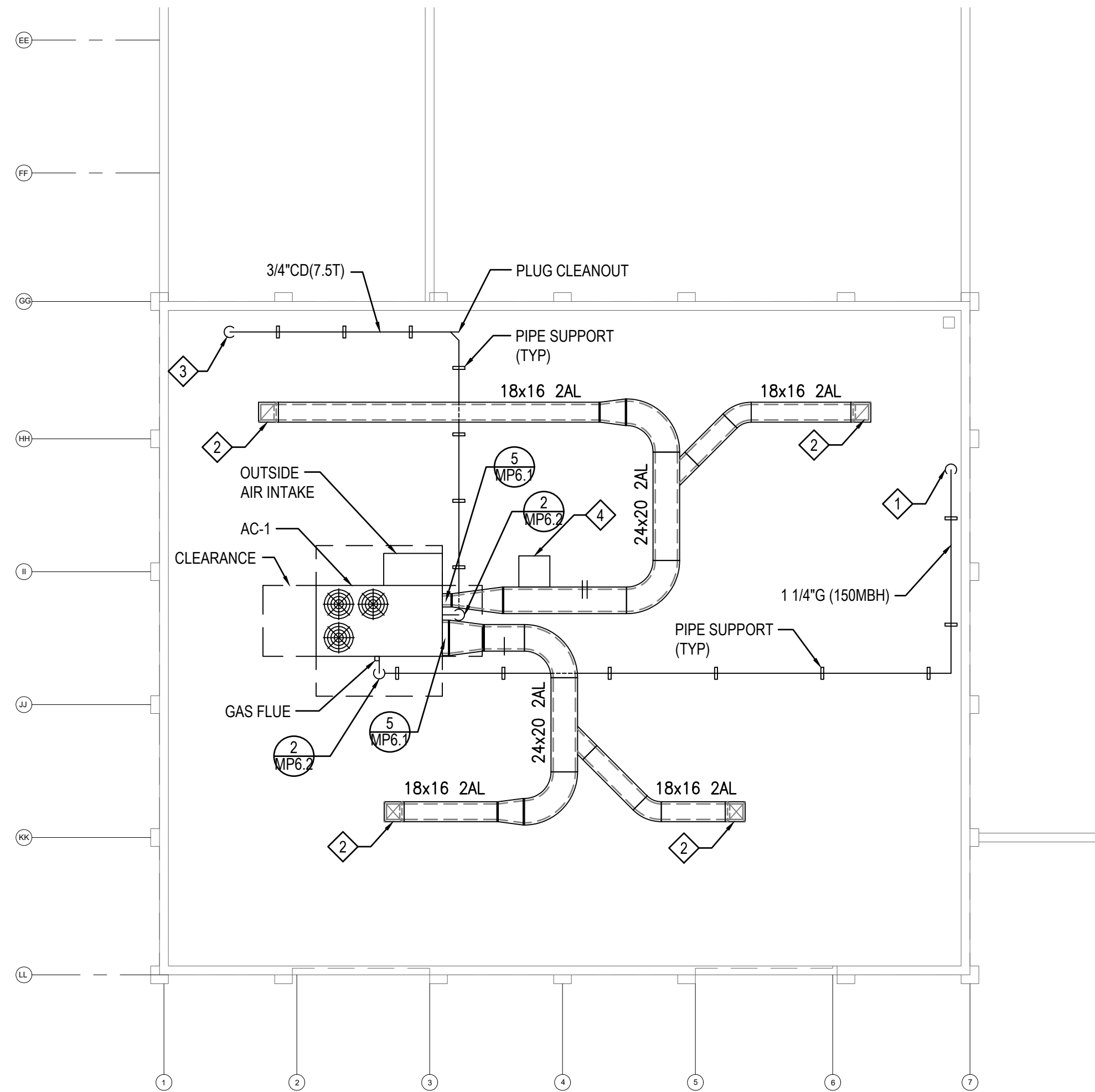
MECHANICAL AND PLUMBING ROOF PLANS

Project No. 1919 Date December 16, 2019

CD Drawing Number **MP2.2**



② MECHANICAL ROOF PLAN (DEMOLITION)
1/8"=1'-0"



① MECHANICAL ROOF PLAN
1/8"=1'-0"

DEMOLITION CONSTRUCTION NOTES

- ① REMOVE EXISTING FLUE THROUGH ROOF. COORDINATE ROOF PATCHING AND REPAIR WITH GENERAL CONTRACTOR.

CONSTRUCTION NOTES

- ① GAS RISER UP FROM FIRST FLOOR. SEE SHEET MP2.1 FOR CONTINUATION.
- ② 18"x16" 2AL DOWN TO FIRST FLOOR. SEE SHEET MP2.1 FOR CONTINUATION.
- ③ DROP CONDENSATE DRAIN THROUGH ROOF. SEE SHEET MP2.1 FOR CONTINUATION.
- ④ MODULATING POWER ECONOMIZER EXHAUST FAN. SEE DETAIL 3/ MP6.1 FOR SUPPORT INFORMATION.

ROOF TOP PACKAGE UNIT SCHEDULE

MARK	SERVICE	MFR	MODEL	AIR DISCHARGE/RETURN	CFM	DESIGN MIN OA	COOLING CAPACITY (MBH)		EVAPORATOR EAT °F		HEATING CAPACITY				FILTER	SUPPLY FAN			ELECTRICAL DATA						ARI EER	WEIGHT(LBS)				NOTES:		
							TOTAL	SENSIBLE	DB	WB	EAT (°F)	LAT (°F)	INPUT (MBH)	OUTPUT (MBH)		FAN ESP	FAN	FAN POWER	ROOF TOP UNIT			POWER ECONOMIZER				AC-UNIT	POWER EXHAUST	ROOF CURB	TOTAL WEIGHT			
																IN W.G.	RPM	BHP	VOLT/ Φ / HZ	MOCP	FLA	LRA	HP	FLA		VFD	MOCP					
AC-1	MUSIC ROOM	CARRIER	48LCD008C2M5-0A3A0	SIDE/SIDE	3,600	750	92.91	80.98	79.5	64.5	62.3	95.5	150	120	2" MERV-13	1	717	1.84	208/3/60	50	45	204	1.0	5.8	YES	13.1	12.8	1800	400	600	2800	1, 2, 3, 4

NOTES:
 1. PACKAGED GAS/ELECTRIC ROOFTOP UNIT WITH MODULATING POWER ECONOMIZER EXHAUST FAN. POWER EXHAUST POWERED SEPARATELY AND CONTROLLED BY THE UNIT.
 2. UNIT IS PROVIDED WITH 18" HIGH SPRING ISOLATOR CURB WITH 1" DEFLECTION.
 3. PROVIDE 2" THICK MERV-13 FILTER.
 4. SEE DETAIL 1/MP6.2 FOR MOUNTING DETAIL WITH SPRING ISOLATOR CURB.

DIFFUSER, GRILLE, REGISTER SCHEDULE

MARK	LOCATION	MANUFACTURER	MODEL	SIZE	NECK	FINISH	SERVICE	REMARKS
SWS-1	SEE PLANS	TITUS	300R	10"x10"	SEE PLANS	#04 STAINLESS STEEL	SUPPLY	SIDEWALL SUPPLY DIFFUSER WITH VOLUME CONTROL DAMPER. DOUBLE DEFLECTION WITH 3/4" BLADE SPACING.
RG-1	SEE PLANS	TITUS	50F	36"x24"	SEE PLANS	#04 STAINLESS STEEL	RETURN	1/2"x1/2" EGGCRATE GRILLE. BORDER TYPE 1 FOR SURFACE MOUNTING OR WITH NO CEILING.



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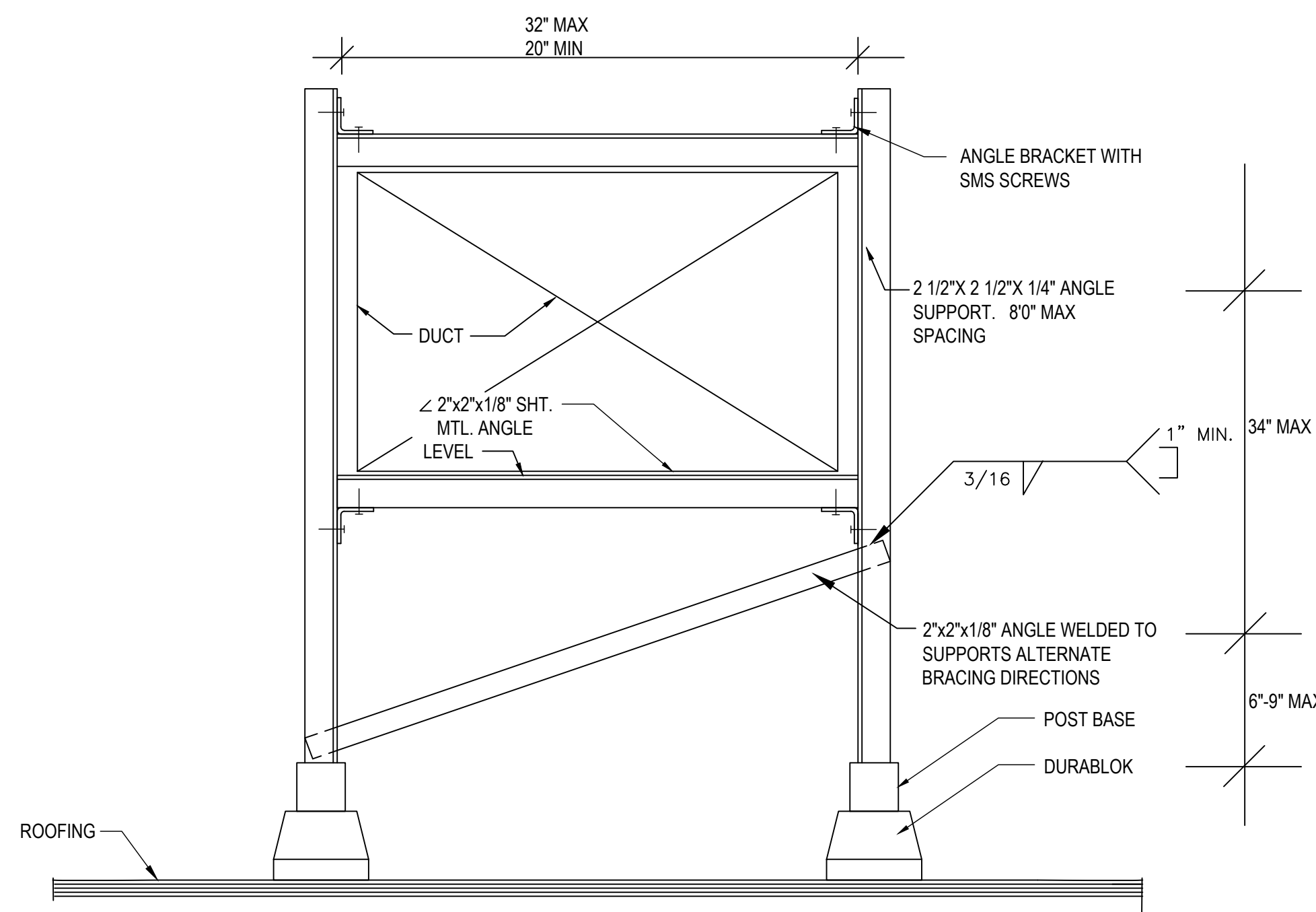
No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

MECHANICAL SCHEDULES

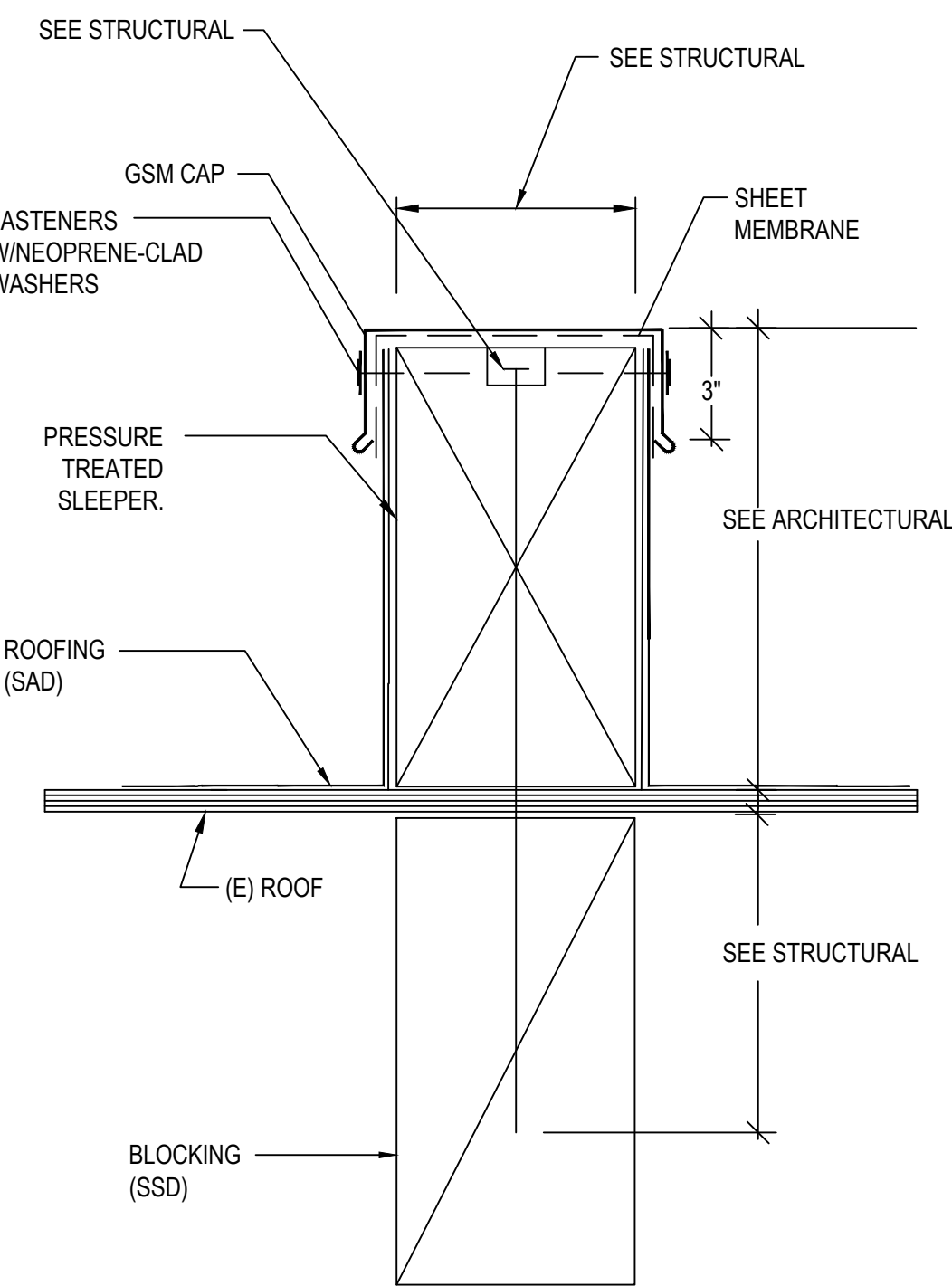
Project No. 1919 Date December 16, 2019

CD Drawing Number **MP4.1**



DUCT SUPPORT ON ROOF
NOT TO SCALE

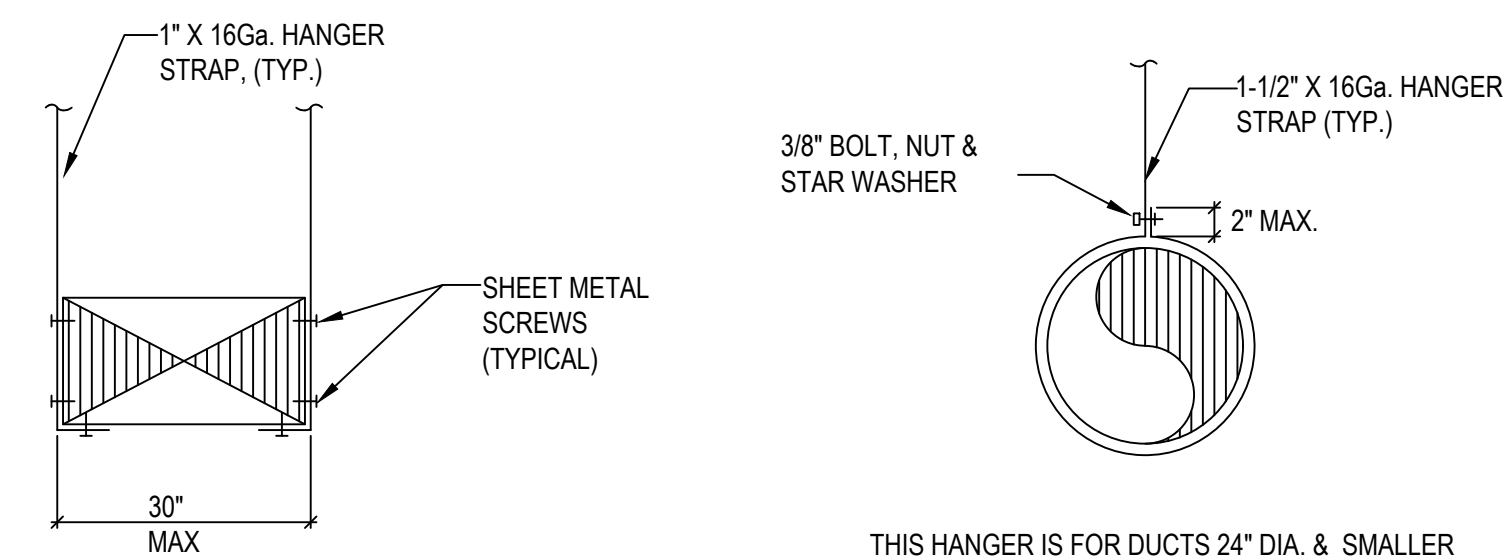
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NOTES: SEE STRUCTURAL DETAILS 8/S-2.0 AND 9/S-2.0 FOR MORE INFORMATION.

SLEEPER DETAIL
NOT TO SCALE

4



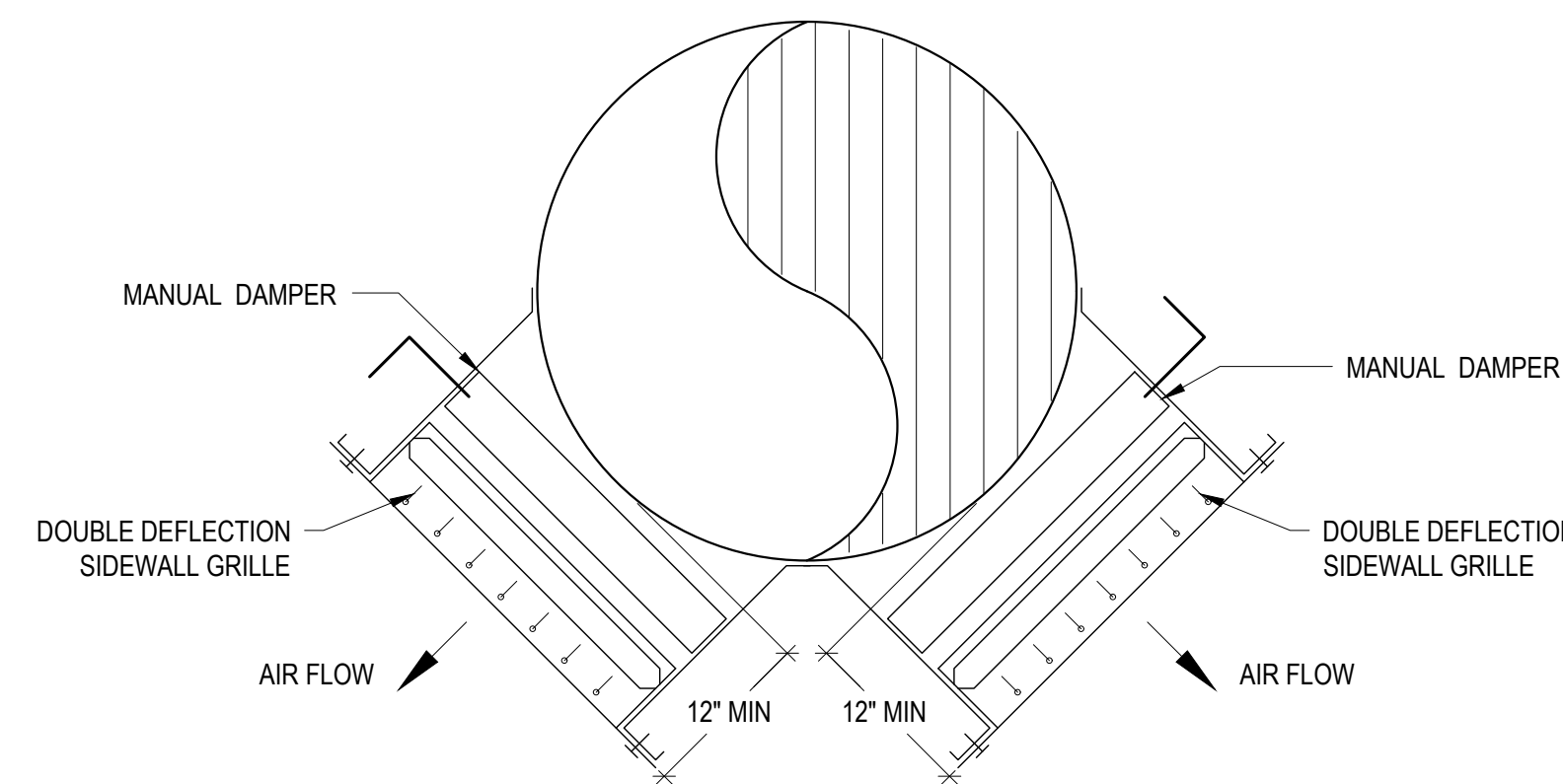
RECTANGULAR DUCT HANGER

ROUND DUCT HANGER

GENERAL NOTES:
1. REFER TO SPECIFICATIONS FOR HANGER SPACING
2. SEE 4/MP6.2 DRAWING FOR ATTACHMENTS TO OVERHEAD STRUCTURE DETAIL.

DUCT SUPPORT DETAIL
NOT TO SCALE

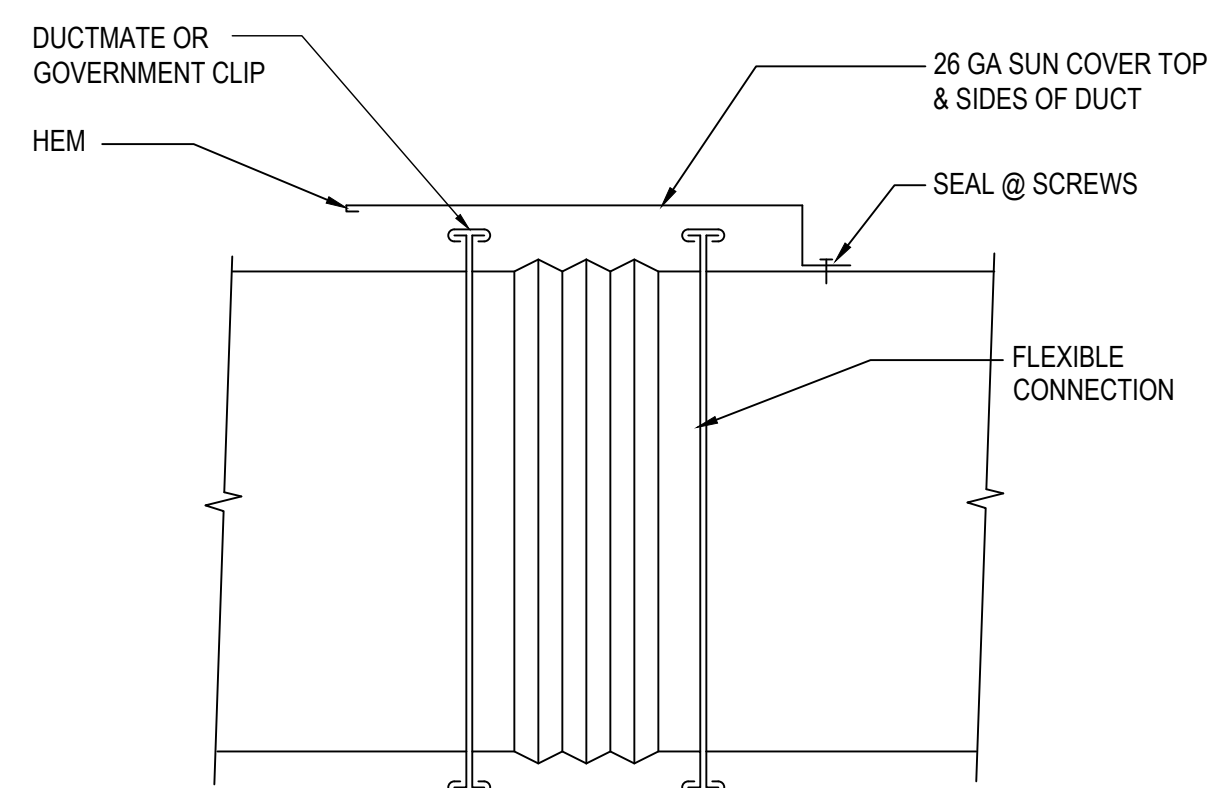
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NOTE:
1. INSTALL GRILLES AT 45 DEGREES.

GRILLE ON DUCT SIDEWALL
NOT TO SCALE

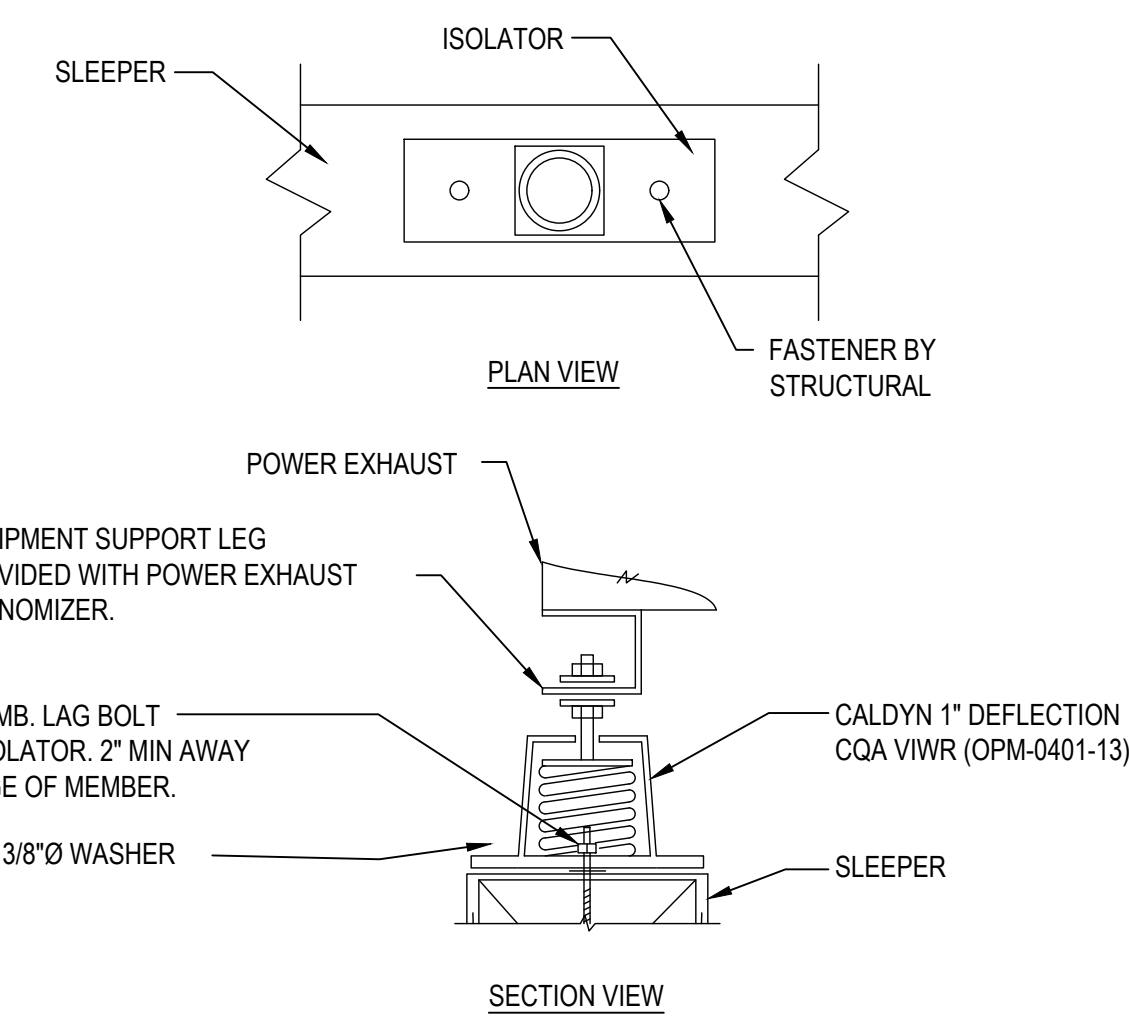
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NOTE: TYPICAL @ ALL EXPOSED FLEXIBLE CONNECTIONS

WEATHER PROTECTION AT FLEX CONNECTION
NOT TO SCALE

5



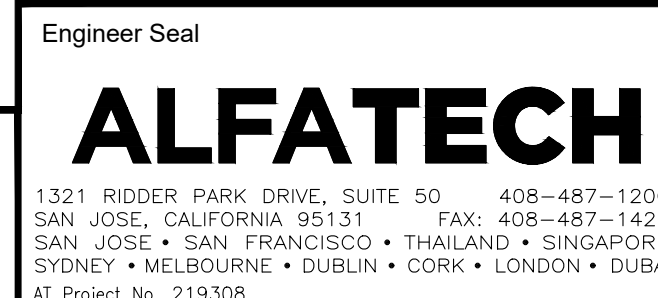
GENERAL NOTES:
1. REFER TO DETAIL 4/MP6.1 FOR SLEEPER DETAILS.

MODULATING POWER ECONOMIZER EXHAUST FAN SUPPORT
NOT TO SCALE

3

NOT USED
NOT TO SCALE

7



Architect Seal

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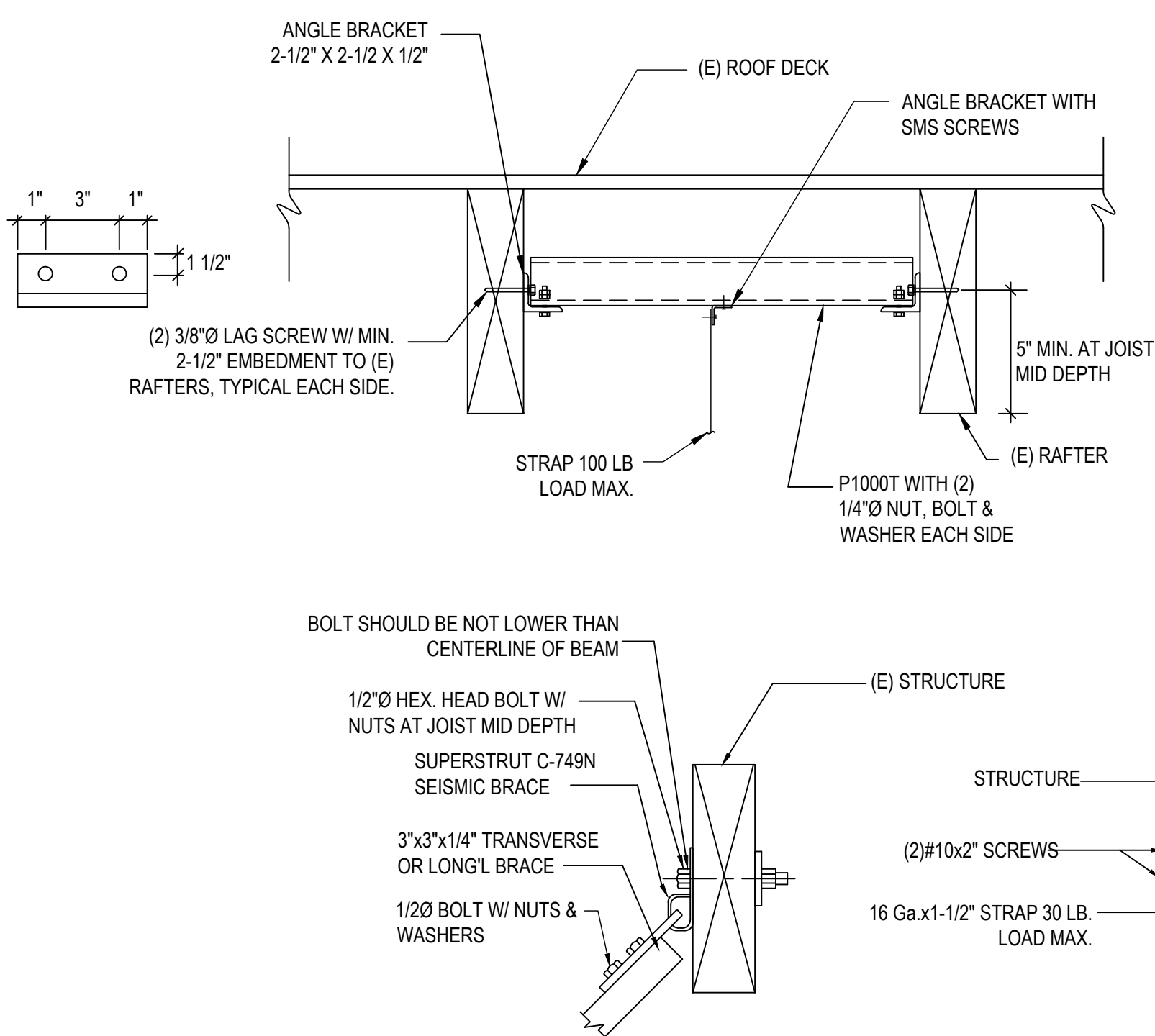
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-	DSA Submittal	12/18/19

Drawing Title

MECHANICAL DETAILS

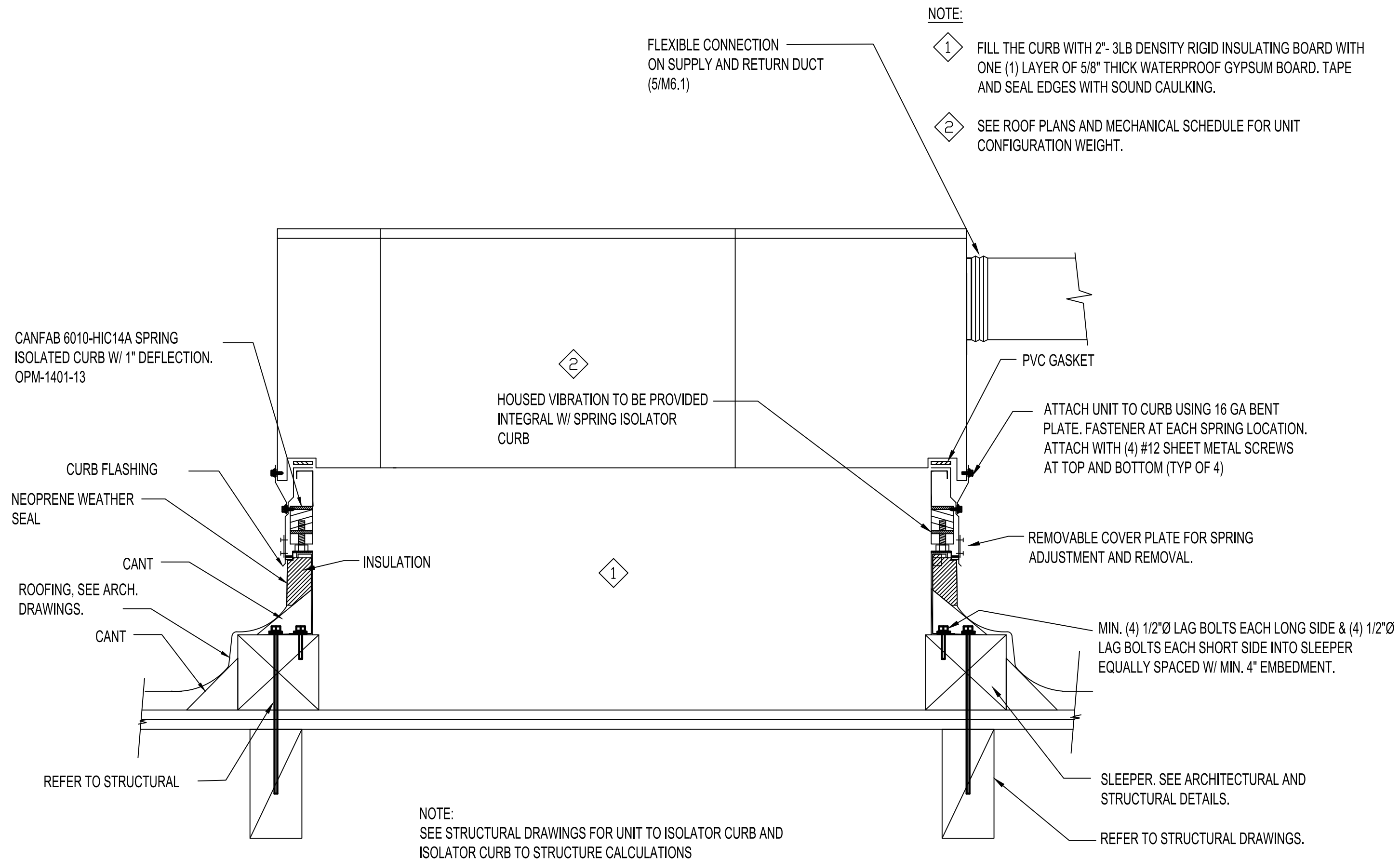
Project No. 1919 Date December 16, 2019

Drawing Number
MP6.1



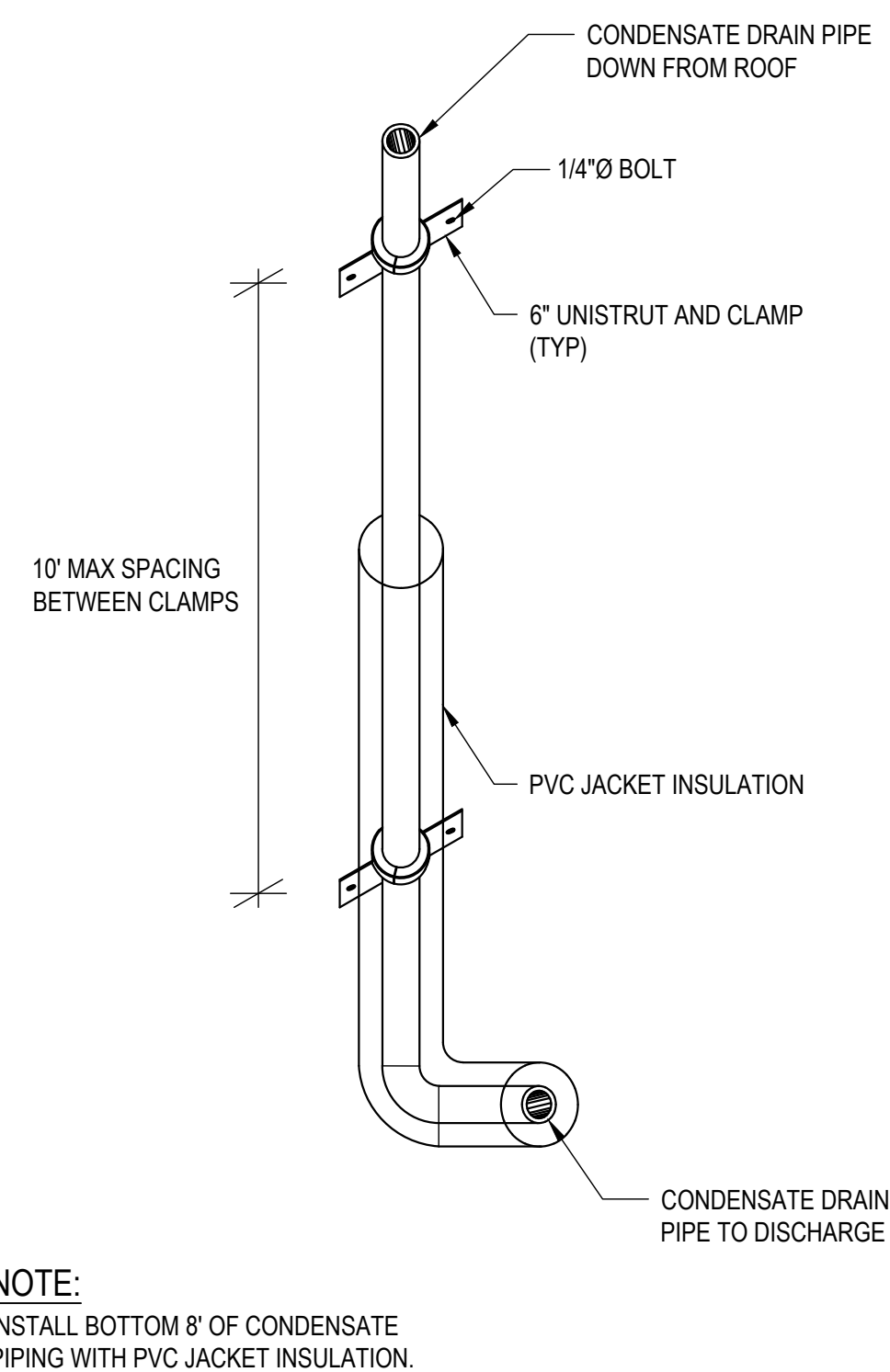
ATTACHMENT TO OVERHEAD STRUCTURE DETAIL
NOT TO SCALE

4



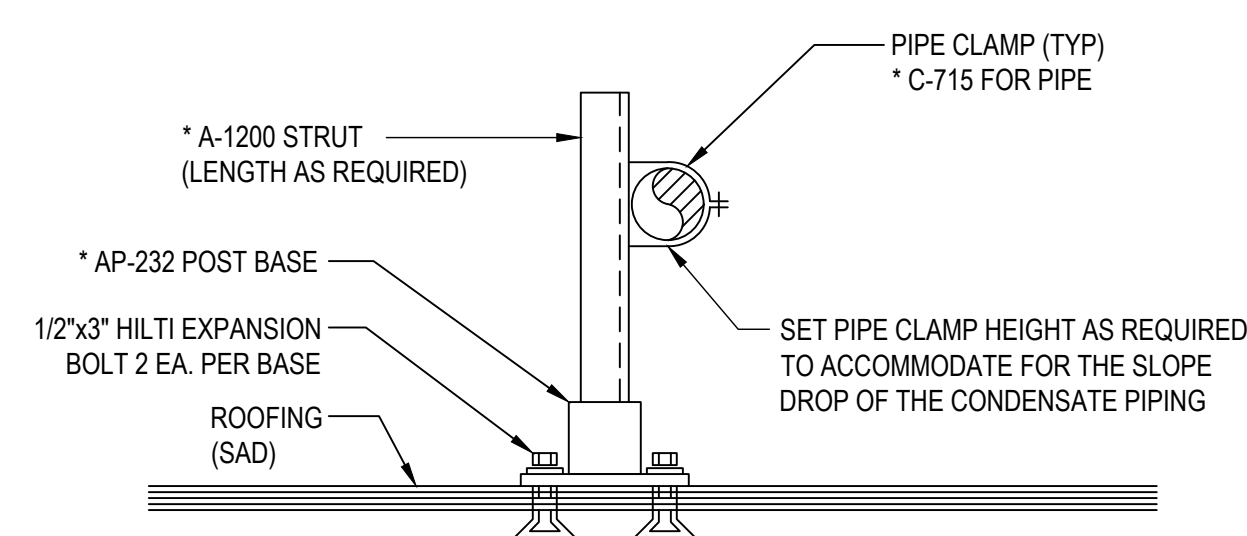
ROOF TOP PACKAGED AC UNIT MOUNTING DETAIL FOR HORIZONTAL DISCHARGE UNIT
NOT TO SCALE

1



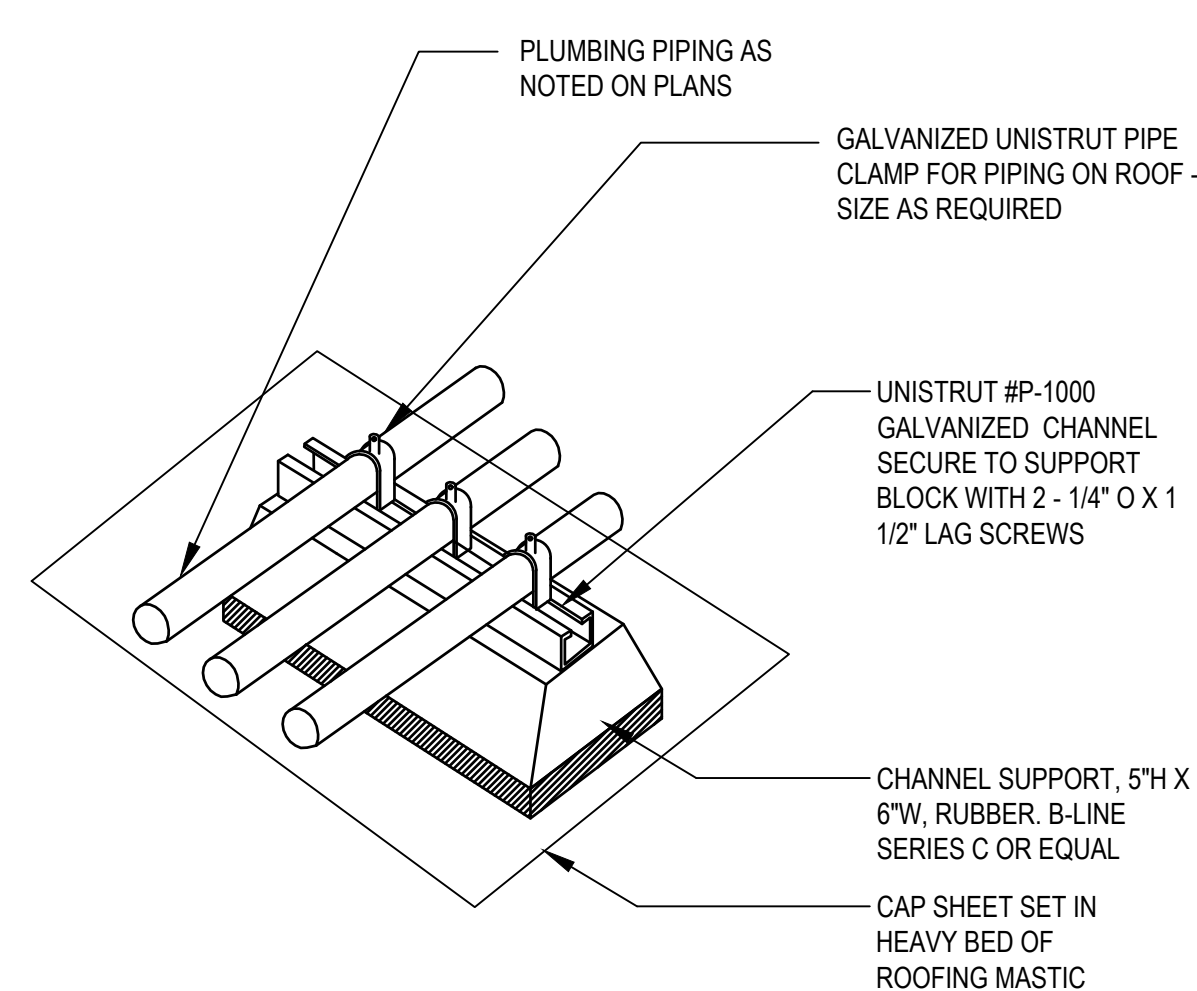
CONDENSATE DRAIN PIPE WALL BRACING DETAIL
NOT TO SCALE

6



CONDENSATE DRAIN PIPE ROOFTOP SUPPORT DETAIL
NOT TO SCALE

5

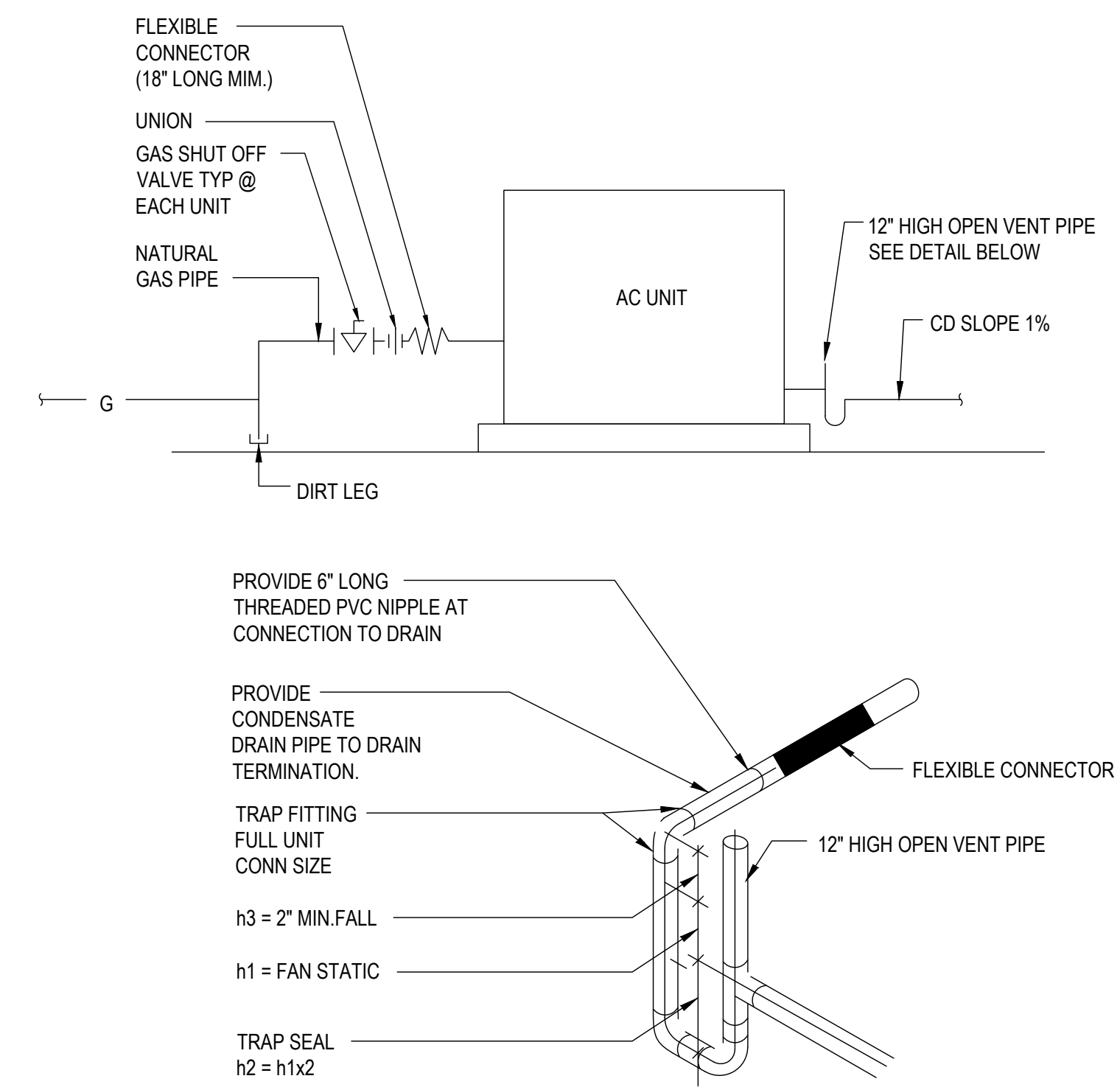


MAXIMUM PIPE SIZE	HORIZONTAL PIPE SPACING:	
	STEEL (FT.)	COPPER (FT.)
1/2"	7	5
3/4"	7	5
1"	7	6
1 1/4"	8	8
1 1/2"	9	8
2"	10	8

NOTE: PROVIDE CHANNEL SUPPORT AT 8'-0" O.C. MINIMUM SPACING, AND 2'-6" MINIMUM FROM EACH TERMINATION. CHANNEL SUPPORT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

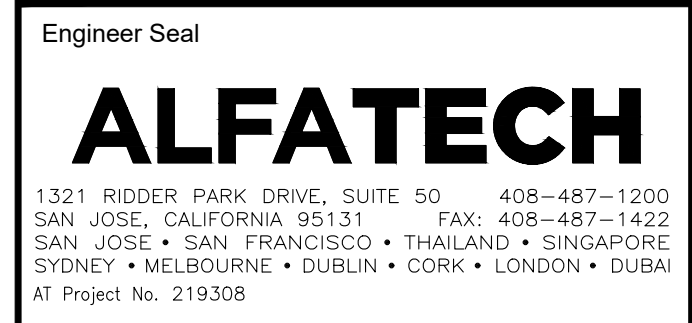
GAS PIPE ROOFTOP SUPPORT DETAIL
NOT TO SCALE

3



GAS AND CONDENSATE DRAIN DETAIL
NOT TO SCALE

2



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Project Title

Morrill Middle School
1970 Morrill Ave.
San Jose, CA 95132
HVAC Upgrade

Client

Berryessa Union School District
1376 Piedmont Rd.
San Jose, CA 95132

No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

MECHANICAL DETAILS

Project No.
1919

Date
December 16, 2019

CD

Drawing Number
MP6.2



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AT Project No. 219308



Architect Seal

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1970 Morrill Ave.
San Jose, CA 95132
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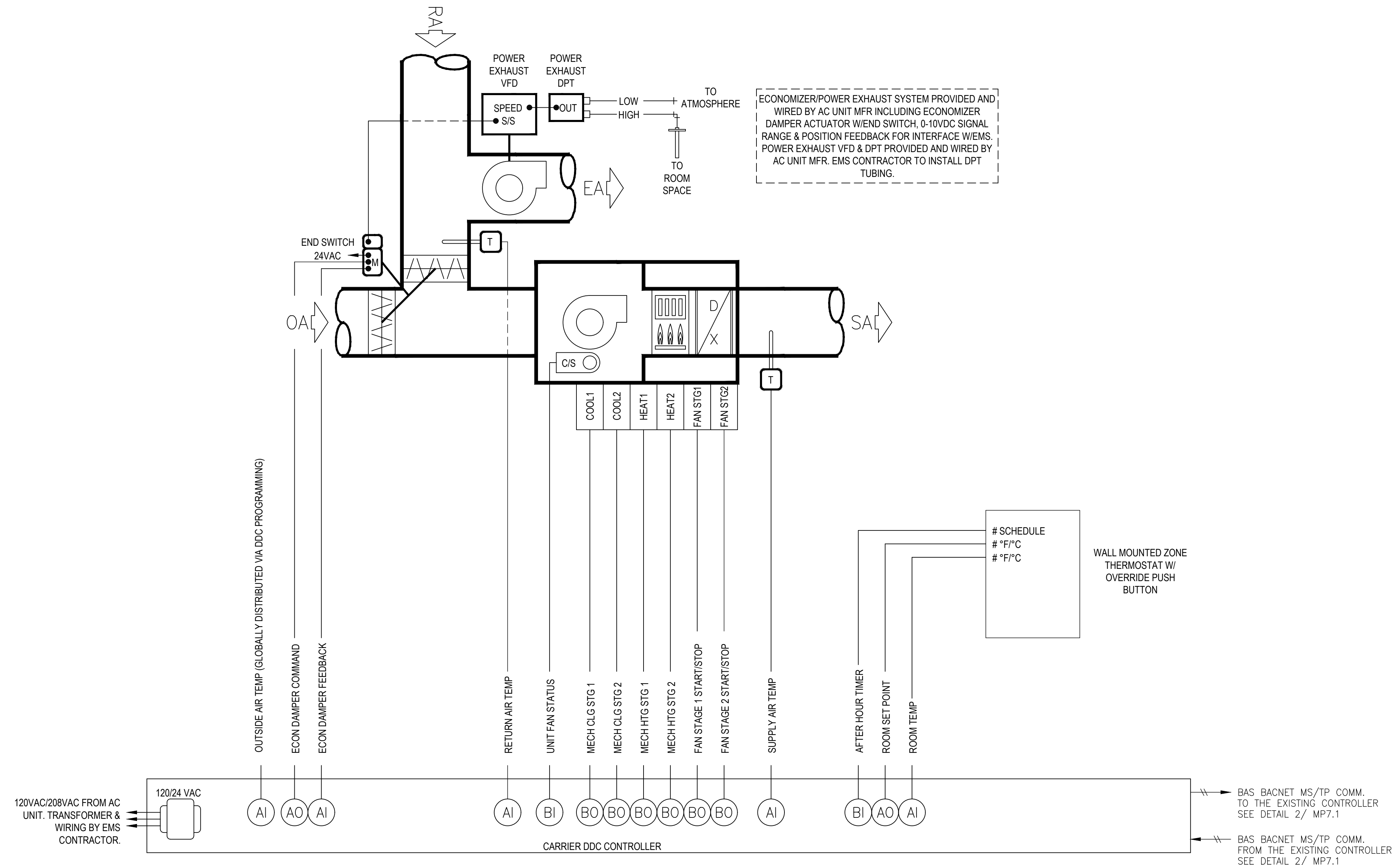
No	Revisions/Submissions	Date
-	DSA Submittal	12/18/19

Drawing Title

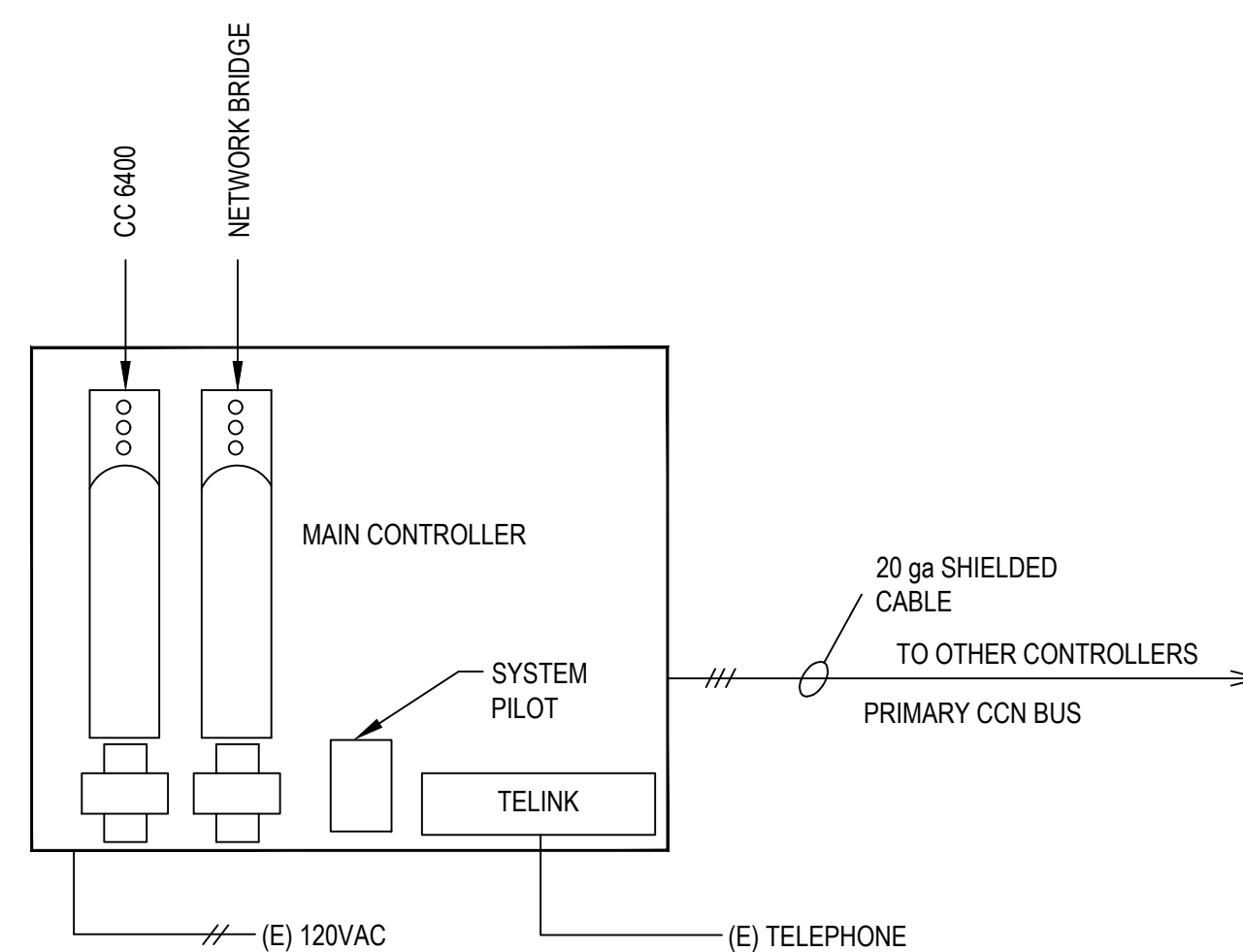
MECHANICAL CONTROLS

Project No. 1919 Date December 16, 2019

CD Drawing Number **MP7.1**



1 PACKAGE AC UNIT, PWR EXHAUST (AC-1)
NO SCALE



NOTES:

- EXISTING MAIN CARRIER CONTROLLER IS LOCATED IN MDF ROOM COORDINATE WITH SCHOOL DISTRICT FOR EXACT LOCATION.
- CONTRACTOR TO COORDINATE TIE-IN OF (N) DDC CONTROLLER TO THE (E) CONTROLLER.

2 EXISTING MAIN CARRIER CONTROLLER (FOR REFERENCE ONLY)
NO SCALE



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Date Signed _____

Architect Seal

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 San Jose, CA 95132
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 1376 Piedmont Rd.
 San Jose, CA 95132

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Drawing Title

**ELECTRICAL SYMBOLS,
 ABBREVIATIONS, NOTES &
 DRAWING INDEX**

Project No. 1919 Date December 16, 2019

CD Drawing Number **E0.1**

ELECTRICAL SYMBOLS

- ⊙ JUNCTION BOX WITH COVER
- ⊕ SPECIAL RECEPTACLE OUTLET, AMPERE, VOLTAGE, PHASE AND NEMA RATING
- ⊕ 20A-120V DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE, WALL MOUNTED +18" U.O.N.
- ⊕ 20A-120V DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE, MOUNTED ABOVE COUNTER SPLASH
- ⊕ 20A-120V DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE, ON CEILING MOUNTED RETRACTABLE CORD REEL.
- ▬ FLUSH MOUNTED PANELBOARD - SEE SCHEDULES
- ▬ SURFACE MOUNTED PANELBOARD - SEE SCHEDULES
- ▨ SWITCHBOARD, DISTRIBUTION PANEL, MCC - SEE SINGLE LINE DIAGRAM
- ▭ RECESS MOUNTED TERMINAL CABINET/CONTROL PANEL
- ▭ SURFACE MOUNTED TERMINAL CABINET/CONTROL PANEL
- ◇ SHEET NOTE IDENTIFICATION TAG, SEE RESPECTIVE "SHEET NOTES"

ABBREVIATIONS

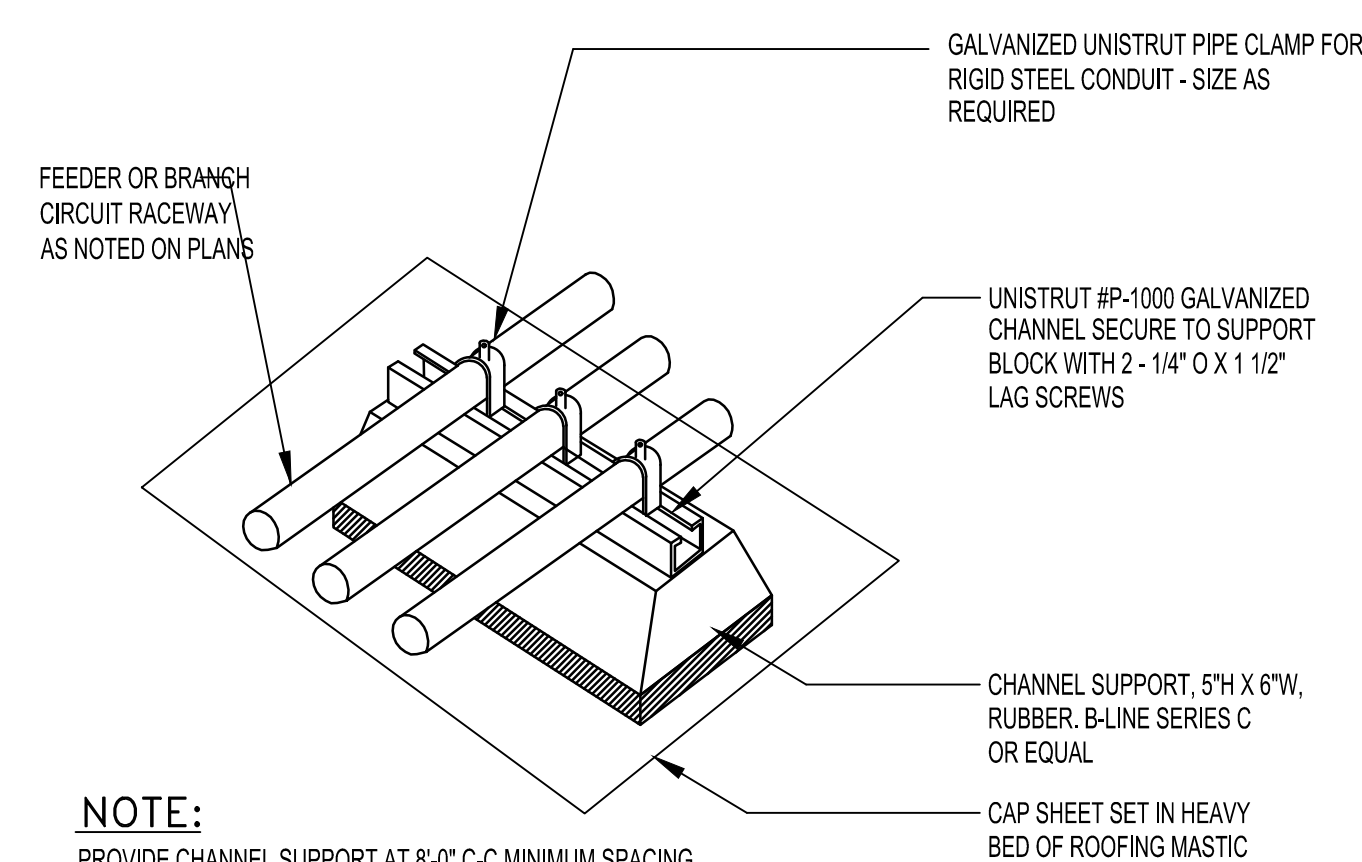
- | | |
|-------------|-----------------------------|
| A, AMPS | AMPERES |
| AC | ALTERNATE CURRENT |
| AF | AMPERE FRAME |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AIC | AMPERE INTERRUPTION CURRENT |
| APP | APPROXIMATE |
| ARCH | ARCHITECT/ARCHITECTURAL |
| AWG | AMERICAN WIRE GAUGE |
| BKBD | BACKBOARD |
| BKR | BREAKER |
| C | CONDUIT |
| CO | CONDUIT ONLY |
| CU | COPPER |
| DET. | DETAIL |
| DIA | DIAMETER |
| DISC | DISCONNECT (SWITCH) |
| DWG | DRAWING |
| <E> | EXISTING |
| FA | FIRE ALARM |
| FACP | FIRE ALARM CONTROL PANEL |
| G | GROUND |
| GFI | GROUND FAULT INTERRUPTER |
| KCMIL | KILO CIRCULAR MILLS |
| KVA | KILOVOLT-AMPERES |
| KW | KILOWATTS |
| MAX | MAXIMUM |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| MTD | MOUNTED |
| MTG. HT. | MOUNTING HEIGHT |
| MSB | MAIN SWITCHBOARD |
| N | NEUTRAL |
| NIC | NOT IN CONTRACT |
| NTS | NOT TO SCALE |
| P | POLE |
| PH, Ø | PHASE |
| PA | PUBLIC ADDRESS |
| PNL | PANEL |
| <R> | REMOVE |
| <RE> | RELOCATED EXISTING |
| <RL> | RELOCATE |
| SYM | SYMMETRICAL |
| T, TEL | TELEPHONE |
| TRANS, XFMR | TRANSFORMER |
| TYP | TYPICAL |
| UON | UNLESS OTHERWISE NOTED |
| V | VOLTS |
| VA | VOLT-AMPERES |
| W | WATTS |
| WP | WEATHERPROOF |

DRAWING INDEX

- E0.1 ELECTRICAL SYMBOLS, ABBREVIATIONS, NOTES & DRAWING INDEX
- E1.1 ELECTRICAL SITE PLAN
- E2.1 ELECTRICAL AND FIRE ALARM PLANS
- E7.1 FIRE ALARM DETAILS

GENERAL NOTES

1. READ THE SPECIFICATIONS AND COMPLY WITH ALL REQUIREMENTS. THESE GENERAL NOTES ARE INTENDED TO ASSIST THE CONTRACTOR DURING EXECUTION THE WORK, HOWEVER, THEY DO NOT COVER ALL OF THE SPECIFICATION REQUIREMENTS.
2. CONTRACTOR SHALL SECURE AND PAY FOR ALL CONSTRUCTION PERMITS AND LICENSES AND SHALL PAY ALL GOVERNMENTAL AND PUBLIC UTILITY CHARGES NECESSARY FOR THE EXECUTION OF THE WORK.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.
4. ANY EQUIPMENT AND MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UNUSED AND FREE FROM DEFECTS.
5. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY SCHOOL DISTRICT REPRESENTATIVE, TENANT AND ARCHITECT/ENGINEER. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.
6. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED.
7. BRANCH CIRCUIT RACEWAY SHALL BE A MINIMUM OF 3/4" ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE NOTED. RACEWAYS IN RAISED FLOOR OR IN PLENUM SPACE SHALL BE A MINIMUM OF 3/4" RIGID GALVANIZED STEEL (RGS) OR RIGID ALUMINUM (RAL) UNLESS OTHERWISE NOTED.
8. ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING OR BELOW RAISED FLOOR UNLESS OTHERWISE NOTED.
9. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS NOTED OTHERWISE.
10. ELECTRICAL DEVICES MOUNTED ON OPPOSITE SIDES OF THE FIRE RATED WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24". PENETRATIONS IN WALLS, FLOORS OR CEILING, WHICH REQUIRE PROTECTED OPENINGS SHALL BE FIRE-STOPPED WITH APPROVED MATERIAL SECURELY INSTALLED TO MAINTAIN INTEGRITY OF THE FIRE RATING. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTION AUTHORITY AND BE MAINTAINED AT THE JOB SITE.
11. ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE WEATHERPROOF.
12. ALL CEILING MOUNTED ELECTRICAL DEVICES AND/OR EQUIPMENT SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE, NOT FROM CEILING TILE.
13. EXACT LOCATION OF ELECTRICAL DEVICES SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.
14. CONDUIT ROUTES SHOWN ARE APPROXIMATE ONLY AND MUST BE ADJUSTED IN THE FIELD TO CLEAR OTHER FACILITIES.
15. SEAL AIRTIGHT ALL CONDUIT PENETRATIONS THROUGH ALL MECHANICAL PLENUM WALLS, INTERIOR AND EXTERIOR.
16. ALL CUTTING, PATCHING AT WALLS AND EXPOSED CONDUITS SHALL BE PAINTED TO MATCH ADJACENT FINISHED.



NOTE:
 PROVIDE CHANNEL SUPPORT AT 8'-0" C-C MINIMUM SPACING, AND 2'-6" MINIMUM FROM EACH TERMINATION. CHANNEL SUPPORT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

1 ROOF SLEEPER/CONDUIT SUPPORT
 SCALE: NOT TO SCALE

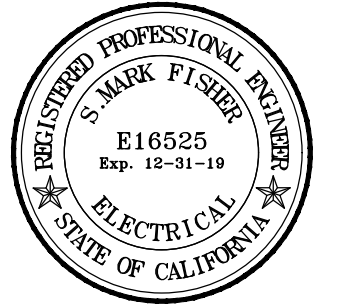


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Date Signed _____

Architect Seal

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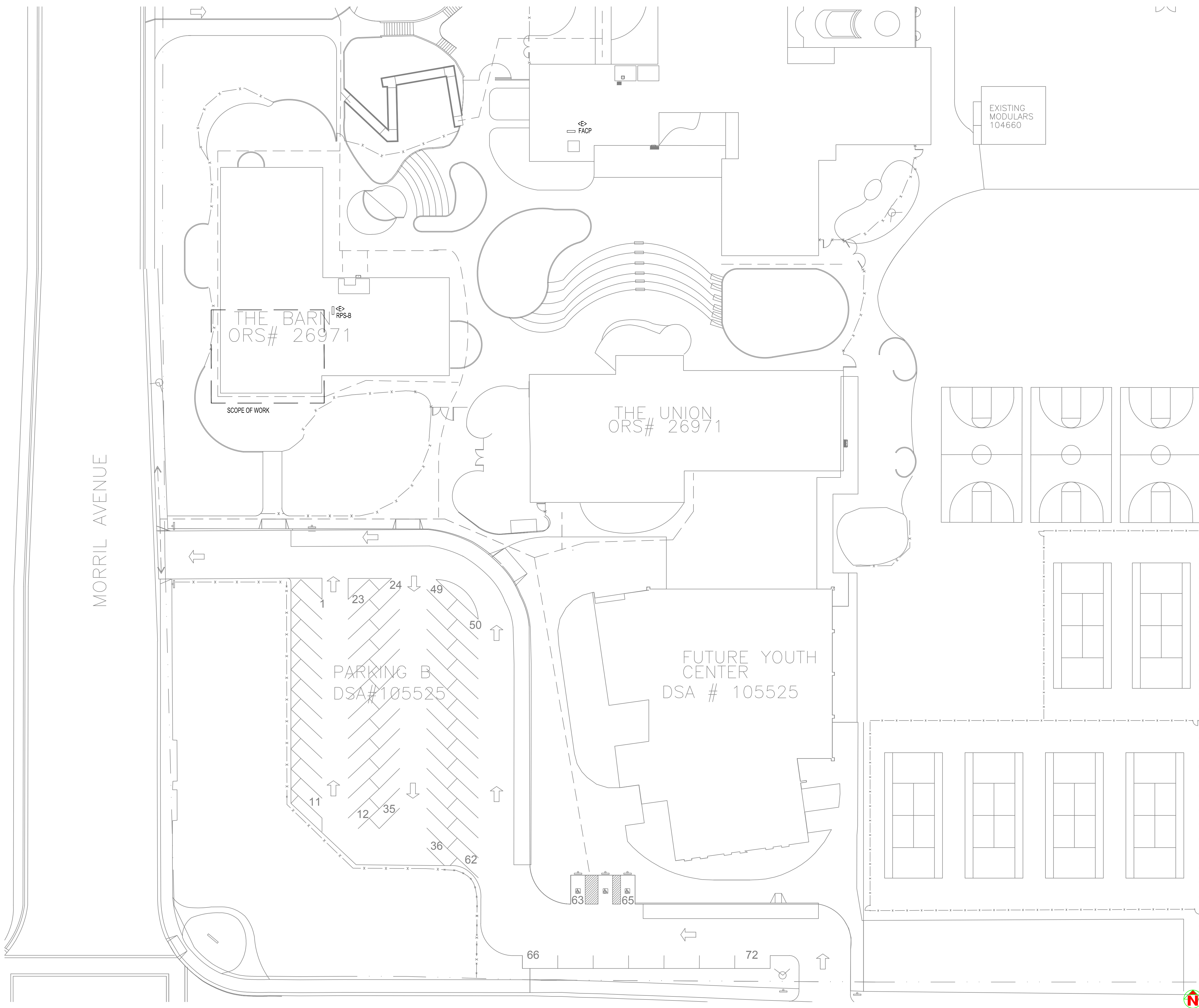
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-	DSA Submittal	12/18/19

Drawing Title

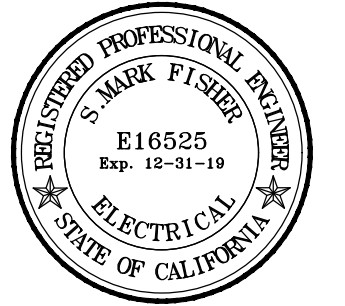
ELECTRICAL SITE PLAN

Project No. 1919 Date December 16, 2019

CD Drawing Number **E1.1**



MORRILL AVENUE



Date Signed _____

Architect Seal

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1970 Morrill Ave.
San Jose, CA 95132
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San Jose, CA 95132

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Drawing Title

**ELECTRICAL AND
FIRE ALARM PLANS**

Project No. 1919 Date December 16, 2019

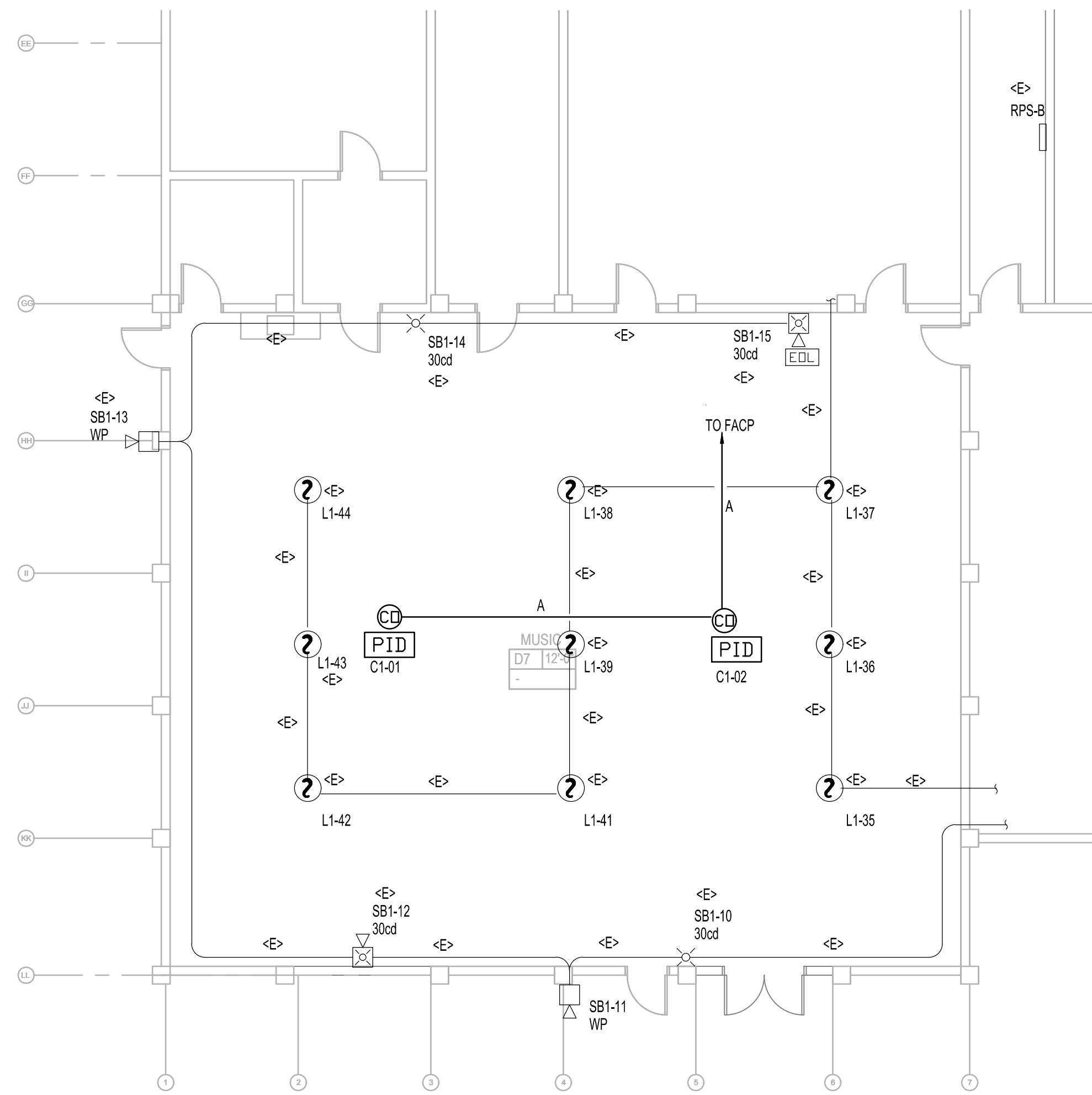
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GENERAL NOTES:

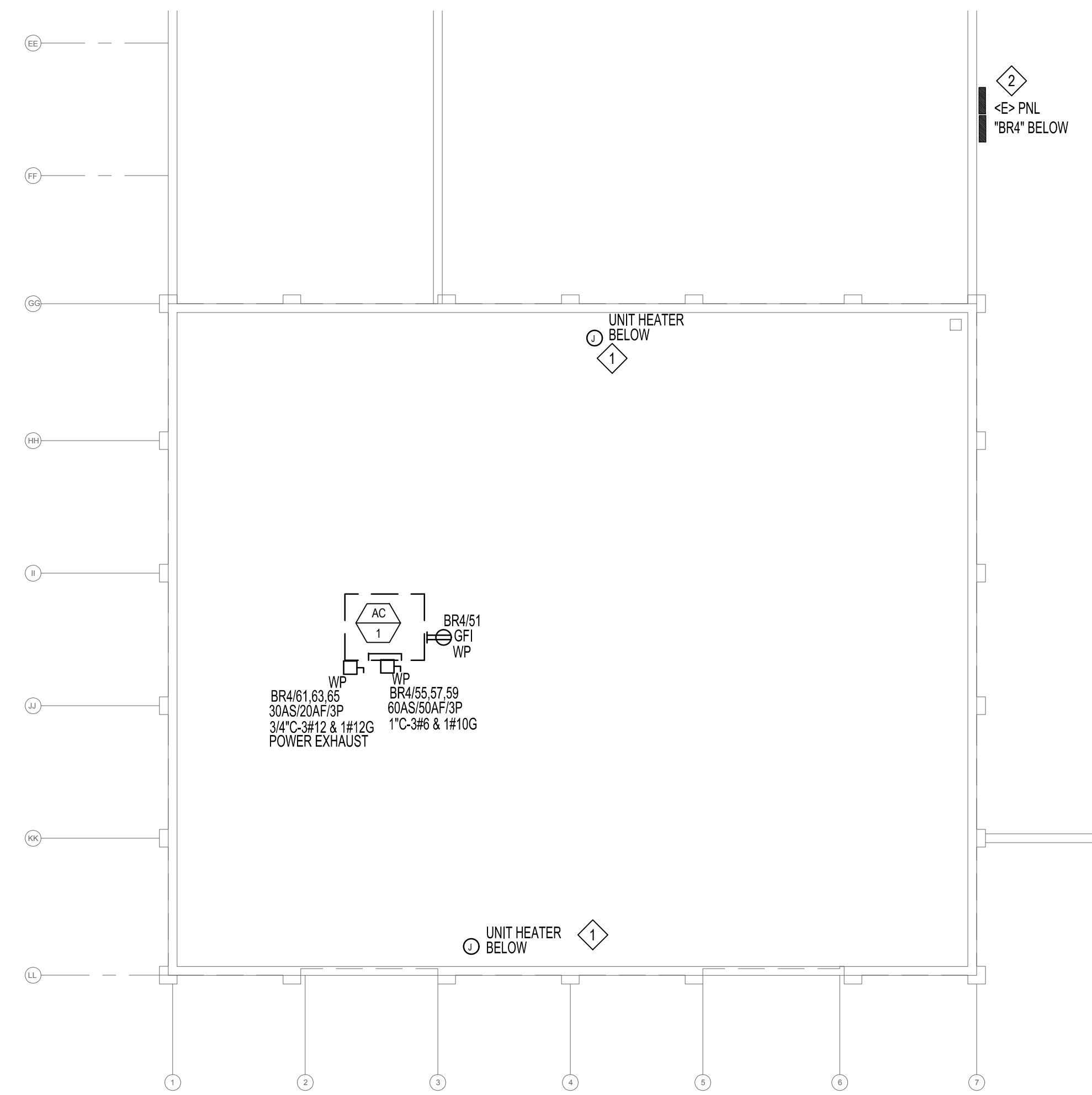
1. EXPOSED CONDUITS SHALL BE ROUTED ALONG EXISTING CONDUITS, PARALLEL OR PERPENDICULAR TO BUILDING STRUCTURE.
2. COORDINATE WITH MECHANICAL AND PLUMBING TRADES FOR EXACT LOCATION OF ALL EQUIPMENT PRIOR TO INSTALLATION. PROVIDE UNISTRUCT SUPPORT FOR ELECTRICAL DEVICE MOUNTING.
3. ALL EXTERIOR DEVICES SHALL BE NEMA 3R TYPE.
4. CONTRACTOR SHALL PROVIDE ALL CONDUIT NECESSARY FOR EMS SYSTEM AT THERMOSTATS AND HVAC EQUIPMENT. COORDINATE WITH CONTROL CONTRACTORS FOR EXACT POINT OF CONNECTIONS PRIOR TO INSTALLATION.

SHEET NOTES:

1. DISCONNECT AND REMOVE <E> POWER CONNECTION OF <E> UNIT HEATER. REMOVE CONDUIT AND WIRES TO THE NEAREST SOURCE.
2. REPLACE <E> (6) 20A/1P BREAKERS WITH (1) 50A/3P AND (1) 20A/3P BREAKERS AT <E> SPARES 55, 57, 59, 61, 63, 65. THE NEW BREAKERS SHALL BE COMPATIBLE WITH <E> PANEL AIC RATING.



2 FIRE ALARM PLAN
SCALE : 1/8"=1'-0"



1 ELECTRICAL ROOF PLAN
SCALE : 1/8"=1'-0"

FIRE ALARM MATERIAL LIST

SYMBOL	NAME	DESCRIPTION	CALIFORNIA STATE FIRE MARSHAL LISTING
FACP	FIRE ALARM CONTROL PANEL-ANALOG ADDRESSABLE WITH BUILT-IN UDACT.	GAMEWELL #F610-254 WITH UDACT-610	7165-1288-154
?	FIRE ALARM PHOTOELECTRONIC SMOKE DETECTOR 30 FT. RECOMMENDED SPACING	GAMEWELL #XP95-P DETECTOR HEAD WITH #X95-B64F MOUNTING BOX	7272-1394-104
CO	CARBON MONOXIDE DETECTOR	SYSTEM SENSOR CO1224	5278-1653-0219
PID	FIRE ALARM ADDRESSABLE MONITOR MODULE INPUT INTERFACE DEVICE.	GAMEWELL #PID-95	7300-1288-147
EOL	END OF LINE		

'A' = WEST PENN 994 - ABOVE GRADE
'A' = WEST PENN AQ226 - BELOW GRADE
'B' = 2 EACH THIN #12 - BELOW GRADE
'B' = WEST PENN 998 - ABOVE GRADE WITHOUT RACEWAY

APPLICABLE CODES:

2016 BUILDING STANDARDS' ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
 2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
 (2015 INTERNATIONAL BUILDING CODE AND 2016 CALIFORNIA AMENDMENTS)
 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24, C.C.R.
 (2014 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
 2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
 (2015 UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
 (2015 UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
 2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24, C.C.R.
 2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24, C.C.R.
 (2015 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
 TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
 PARTIAL LIST OF APPLICABLE STANDARDS:
 NFPA 13 AUTOMATIC SPRINKLER SYSTEMS 2016 EDITION
 NFPA 14 STANDPIPE SYSTEMS (CA AMENDED) 2013 EDITION
 NFPA 17A WET CHEMICAL SYSTEMS 2013 EDITION
 NFPA 24 PRIVATE FIRE MAINS (CA AMENDED) 2016 EDITION
 NFPA 72 NATIONAL FIRE ALARM CODE (CA AMENDED) 2016 EDITION
 REFERENCE CODE SECTION FOR NFPA STANDARDS, 2016 CBC (SFM) CHAPTER 35.

SCOPE OF WORK:

PROVIDE CO DETECTORS AND HVAC INTERFACE CONTROL OF NEW ROOF TOP AC UNIT FOR THE MUSIC CLASSROOM WITH CONNECTION TO <E> CAMPUS AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM.

<E> FIRE ALARM SYSTEM COMPLIES WITH GREEN OAKS FAMILY ACADEMY ELEMENTARY SCHOOL FIRE PROTECTION ACT (SB 575)

TYPE OF SYSTEM

THIS IS A MANUAL / AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM.
 CLASS B PER 2013 NFPA 72 SECTION 12.3.2.

FIRE ALARM NOTES

- POWER SERVICE SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
- PROVIDE TEMPORAL-THREE DISTINCTIVE FIRE ALARM SOUND.
- AUDIBLE FIRE ALARM SOUND LEVEL SHALL BE AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS. (I.E. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS 45 dBA PLUS 15 dBA EQUALS = 60 dBA MINIMUM ALARM TONE REQUIRED.)
- STROBES SHALL FLASH AT A RATE OF NOT EXCEEDING TWO FLASHES PER SECOND NOR BE LESS THAN ONE FLASH EVERY SECOND.
- AUDIBLE SIGNALS INTENDED FOR OPERATION IN THE PUBLIC MODE SHOULD HAVE A SOUND LEVEL OF NOT LESS THAN 75 dBA AT 10 FEET OR MORE THAN 100 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE.
- FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING AT THEIR DISCRETION.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" TO THE INSPECTOR OF RECORD (IOR)/DSA AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TEST.
- FINAL FIRE ALARM TEST SHALL BE MADE WITH DSA INSPECTOR OF RECORD. LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN AVAILABLE.
- ALL FIRE ALARM WIRE SHALL BE INSTALLED IN CONDUIT MIN. SIZE 3/4" OR 800 WIREMOLD AT FINISHED AREA UNLESS OTHERWISE NOTED. EXTERIOR AND UNDERGROUND CONDUITS SHALL HAVE WATER TIGHT FITTINGS. (CEC 110-11 AND 300-6). FIRE RATED CABLE MAY BE ROUTED IN OPEN AIR ABOVE T-BAR CEILING WITHOUT CONDUITS.
- CONTRACTOR SHALL VERIFY EXACT DEVICE AND CABLE TYPE WITH FACP MANUFACTURER TO ENSURE COMPATIBILITY PRIOR TO ORDERING. PROVIDE ALL NECESSARY MODULES, RELAYS, ETC TO ENSURE A COMPLETE OPERATING SYSTEM.

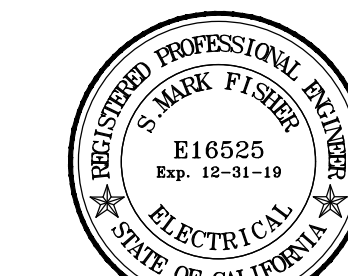
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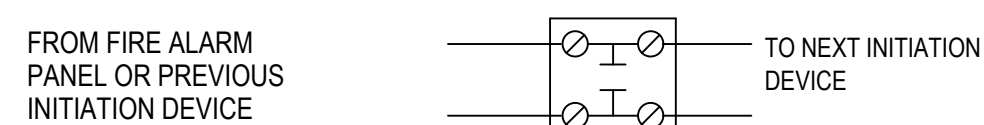
Drawing Title

FIRE ALARM DETAILS

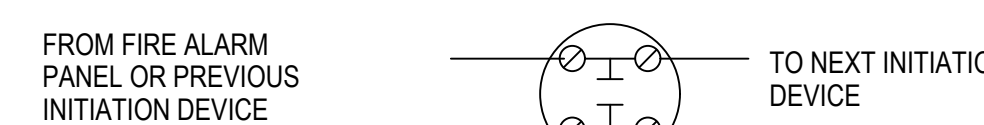
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Drawing Number **E7.1**

TYPICAL FIRE ALARM DETAILS



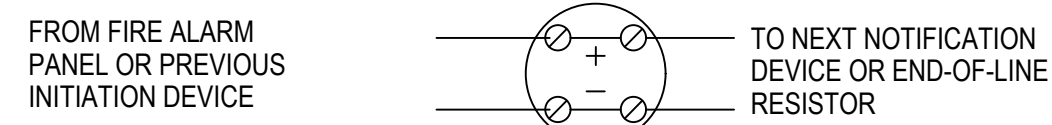
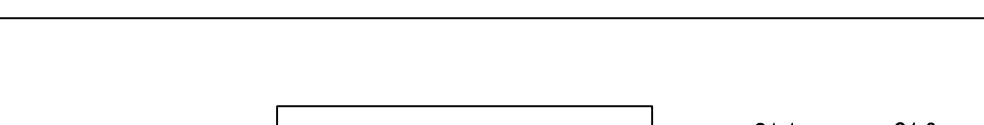
TYPICAL PULL STATION



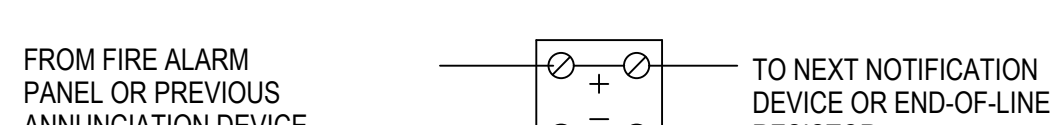
TYPICAL HEAT DETECTOR



TYPICAL SMOKE DETECTOR



TYPICAL STROBE LIGHT



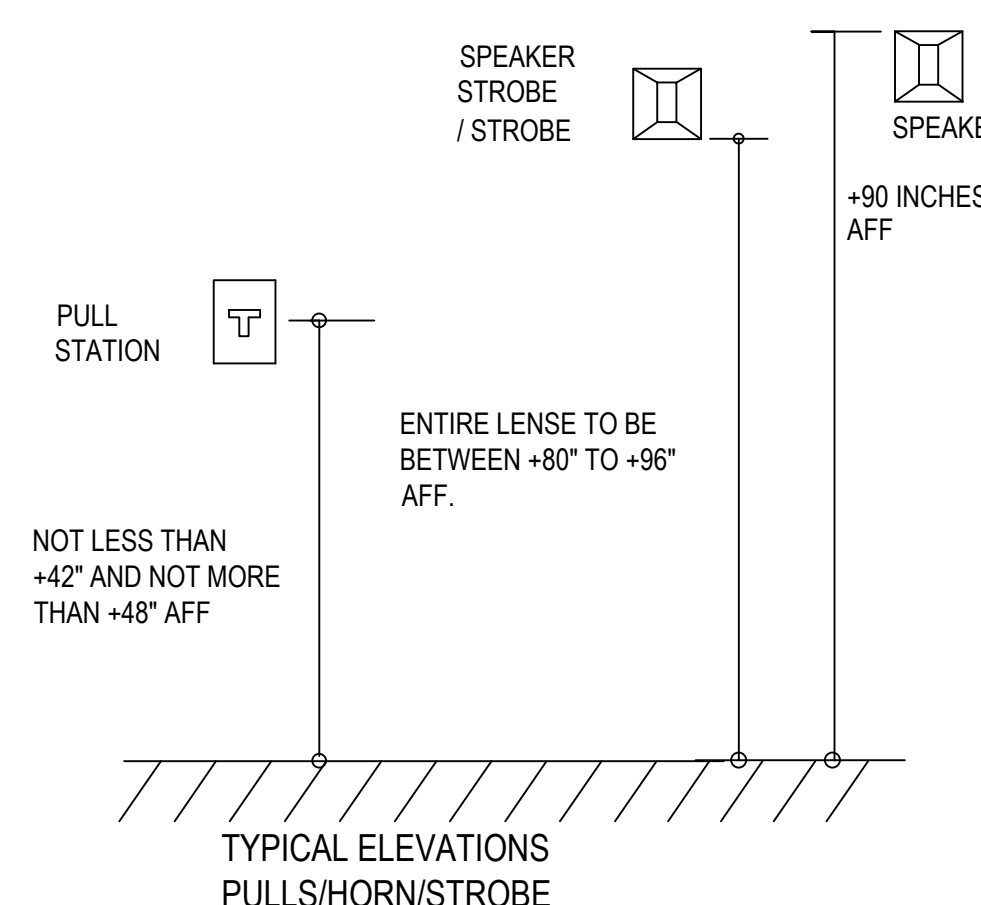
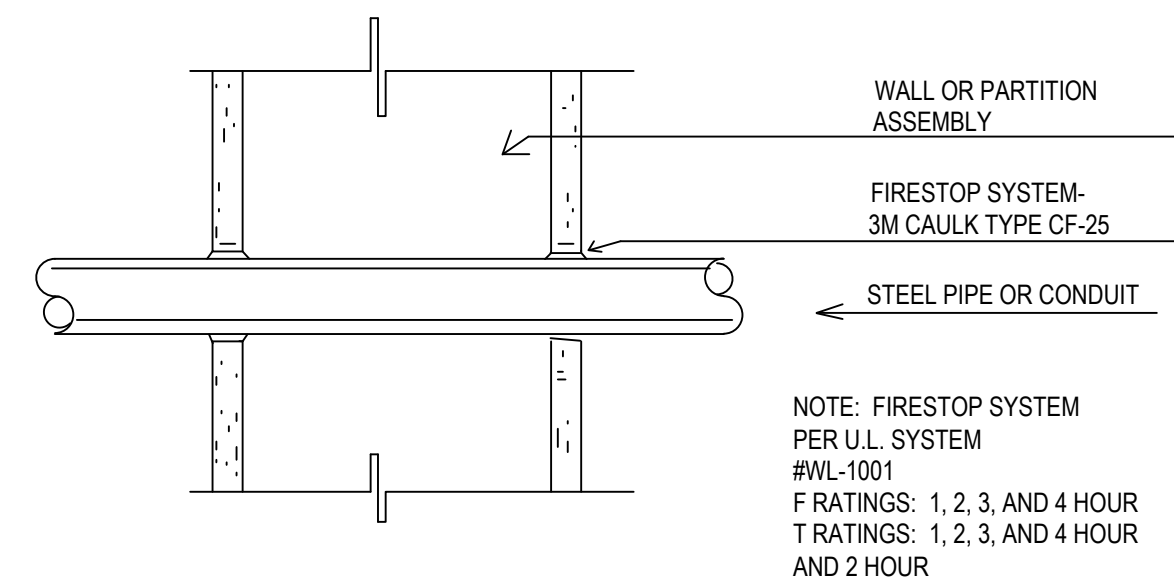
TYPICAL HORN



TYPICAL ADDRESSABLE MODULE



CONDUIT PENETRATION U.L. SYSTEM #WL-1001



OPERATION MATRIX

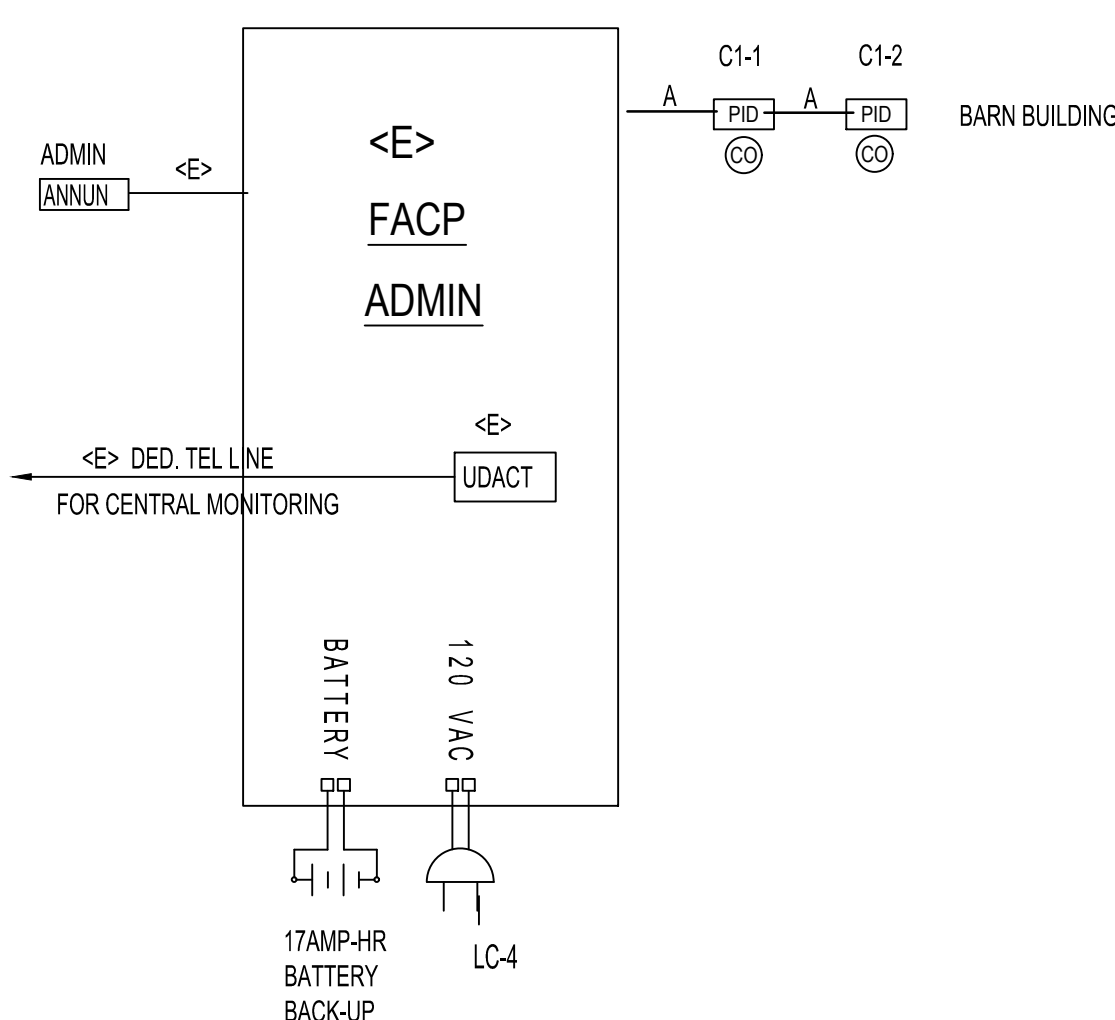
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	HVAC SHUT DOWN	ACTIVATE LOCAL TEMPORAL 4 ALARM SIGNAL
MANUAL STATIONS	X	X	X	X	
SMOKE DETECTOR	X	X	X	X	
HEAT DETECTOR	X	X	X	X	
CO DETECTOR			X		X

<E> FACP (ACADEMIC BLDG)

QTY <E>	QTY <N>	PRODUCT ID	DESCRIPTION	STANDBY		ALARM	
				EACH	TOTAL	EACH	TOTAL
1	0	1F610-252	CONTROL PANEL	0.000000	0.000000	6.000000	6.000000
1	0	DSM-SYNC	SYNC MODULE	0.020000	0.020000	0.038000	0.038000
1	0	UDACT	COMMUNICATOR TRANSMITTER	0.040000	0.040000	0.075000	0.075000
97	0	XP95-T	ADDRESSIBLE HEAT DETECTOR	0.000250	0.024250	0.004000	0.388000
189	0	XP95-I	PHOTOELECTRIC SMOKE DETECTOR	0.000340	0.064260	0.004340	0.820260
0	0	RC295	MONITOR MODULES	0.003750	0.000000	0.005100	0.000000
12	0	XP95-PD	DUCT DETECTOR	0.004000	0.048000	0.075000	0.900000
0	2	CO1224	CO DETECTOR	0.002000	0.004000	0.004000	0.008000
0	2	PDI-95	ADDRESSIBLE MONITOR MODULE	0.000500	0.001000	0.001500	0.003000
					0.000000		
			DEVICE STANDBY CURRENT		0.201510		
			DEVICE ALARM CURRENT				8.232260

TOTAL SYSTEM CURRENT

DESCRIPTION	STANDBY	ALARM
FIELD DEVICES	0.201510	8.232260
TOTAL STANDBY CURRENT	0.201510	
X 24 HOURS STANDBY	4.836240	
TOTAL ALARM CURRENT		8.232260
5 MINUTES OF ALARM (X .083)		0.683278
BATTERY REQUIREMENT		5.519518
20% SPARE		1.103904
TOTAL BATTERY REQUIRED		6.623421
BATTERY SUPPLIED		25AH



PARTIAL RISER DIAGRAM